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15 APR 2003
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BRITISH INTELLIGENCE SURVEY

SOMALI REPUBLIC

DEFE 60/24

Part V: TRANSPORTATION

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BRITISH INTELLIGENCE SURVEYS (B. I. S.)

AND

PORT INFORMATION SHEETS (P. I. S.)

CHECK BULLETIN

No. 1 Date: 1st January 1965

TO BE RETAINED WITH: (Title) B.I.S. Somali Republic Part V Transportation

(Ref. No.) D/6/V (Dated) June 1963

LAST AMENDMENT: (No.) (Date)

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** All items are issued for the first time.

Preface
Page 6, para 5 By a sustained period is meant at least 90 days.

Chapter III - Roads
Page 12, Para 23 Vehicle regitration in 1962 amounted to

Cars	3,500
Trucks and buses	4,500
Motor cycles	600

Appendix A to Chapter III
Page 15, Route 1 Current and future developments (d) Work on a new Chisimaio - Gelib road, being built by Western Germany, was inaugurated in September 1963.

Page 17, Route 31 Remarks (a) This should now be deleted; from Mandera to Il Wak there is only one route, as described under (b).

Page 25 Route 86 Remarks Road from mile 180 to Bargal continues north to join Route 89 at Tohen.

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BRITISH INTELLIGENCE SURVEYS (B. I. S.)
AND
PORT INFORMATION SHEETS (P. I. S.)

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No. 2 Date: July 1966

TO BE RETAINED WITH: (Title) B.I.S. SOMALI REPUBLIC: PART V. TRANSPORTATION

(Ref. No.) D/6/V (Dated) June 1963

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PREFACE

Page 6

Paragraph 5

By a sustained period is meant at least 90 days.

CHAPTER III - ROADS

Page 12

Paragraph 23

**Vehicle registration in 1964 was:

Cars	3,800
Trucks and buses	4,700
Motor cycles	650

Page 15, Route 1 (and map)

**Surface and construction: Mogadisicio to Vittorio d'Africa and Gelib to Chisimaio, tarmacadam, Type 2; Vittoria to Gelib and Chisimaio to Ida, murram, Type 4; remainder, natural surface, Type 5.

Condition: Type 2 sectors, good (1966) remainder poor (1966).

Width: Type 2 sectors 23ft with maximum 3ft shoulders; remainder 20 to 30ft.

Capacity: Type 2 sectors 2,555 v.e.w.p.d; Type 4 sectors 450 v.e.w.p.d; remainder 270 v.e.w.p.d.

Page 17, Route 31 (and map)

Remarks: (a) This should now be deleted. From Mandera to El Wak there is only one route, as described under (b).

Page 25, Route 86 (and map)

Remarks: The road from mile 180 to Bargal continues north to join Route 89 at Tohen.

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No. 3 Date: MARCH 1968

TO BE RETAINED WITH: (Title) B.I.S. SOMALI REPUBLIC: PART V. TRANSPORTATION

(Ref. No.) D/6/V (Dated) June 1963

LAST AMENDMENT: (No.) - (Date) -

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PREFACE
Page 6, Para. 5

By a'sustained period' is meant a period of at least 90 days.

CHAPTER III - ROADS
Page 12, Para. 23

** Vehicle registration in 1966 was:

Cars	4,400
Trucks and buses	6,600
Motor cycles	300

Page 14, Route 1 (and map)

Surface and construction: Mogadiscio to Vittorio d'Africa and Gelib to Chisimaio, tarmacadam, Type 2; Vittoria to Gelib and Chisimaio to Ida, murram, Type 4; remainder, natural surface, Type 5.

Condition: Type 2 sectors, good (1966) remainder poor (1966).

Width: Type 2 sectors 23ft with maximum 3ft shoulders; remainder 20 to 30ft.

Capacity: Type 2 sectors 2,555 vewpd; Type 4 sectors 450 vewpd; remainder 270 vewpd.

** Bridges and ferries: New serial 1/1A added to Appendix B.

Page 17, Route 31 (and map)

Remarks: (a) This should now be deleted. From Mandera to El Wak there is only one route, as described under (b).

Page 18, Route 4

** Current and future developments: Funds have been made available for an all season road between Agfoi and Iscia Baidoa. The work will take three years to complete and is expected to start in March 1968.

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Page 25, Route 86 (and map)

Remarks: The road from mile 180 to Bargal continues north to join Route 89 at Tohen.

Page 30, Route 96 (and map)

** Surface and Construction: Section from Zeila to Louada now has a gravel surface.
** Capacity: Zeila to Louada 200 vewpd.

Page 32, Route 902

** Current and future developments: (b) The road between Las Khoreh and Haberru is nearing completion, but the project was damaged and delayed by storms in August 1967.

APPENDIX B TO CHAPTER III

Page 35, New Serial 1/1A

** (a) 1/1A
(b) Mogadiscio to Liboi (Route 1)
(c) Margherita
(d) NA 38/4 JAD 300180
(e) 155ft
(f) (i) 19ft (ii) 12ft
(g) NK
(h) Probable multispan, deck type, concrete beam and deck bridge, on concrete piers and abutments. Sluice gates probably intervene between piers.
(j) NK
(k) Over stream

Page 37, Serial 6/1

** (k) Remarks: New bridge, construction started January 1968.

Page 38, Serial 6/3

** (d) Location: NB 38/5 KBG 8664
** (e) Length: 180ft
** (k) Remarks: Over stream.

New Serial 6/6A

** (a) 6/6A
(b) Mogadiscio to Ferfer (Route 6)
(c) Belet Uen
(d) NB 38/5 KBN 5123
(e) 260ft
(f) (i) 15ft (ii) NK
(g) NK
(h) Probable eight spans, concrete beam and deck, concrete piers and abutments.
(j) NK
(k) Over stream.

Page 39, Serial 64/1

** (f) (i) Overall width 18ft

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SURVEY

NOTICE

TO ALL HOLDERS OF

BRITISH INTELLIGENCE SURVEY

SOMALI REPUBLIC

D/6/V

PART V: TRANSPORTATION

JUNE 1963

No up-dating material further to the issue of CB No 3 dated March 1968 (which must be retained) will be issued in respect of this document. Much of the information it contains will remain sufficiently valid for general reference purposes for a long period. The document is therefore not being withdrawn, but users are warned that they must apply to the issuing authority for the latest information whenever accuracy of detail is essential. This document must not be used for operational or planning purposes.

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MINISTRY OF DEFENCE, LONDON

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BRITISH INTELLIGENCE SURVEY ON SOMALI REPUBLIC

Part V: TRANSPORTATION

(D/6/V, June 1963)

RECORD OF AMENDMENTS

Amendment		By whom entered	Date entered
No.	Date		

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BRITISH INTELLIGENCE SURVEY ON SOMALI REPUBLIC

1. This report covers Transportation in the Somali Republic and is one of a series dealing with subjects of particular interest to Service staffs. The reports are also distributed to various Government departments. A distribution list is given on page 42. The various Parts (see list below) of the B.I.S. Somali Republic are issued separately for the convenience of users, and to speed up preparation and revision.

2. Other Parts of the B.I.S. which have been or will be issued in this series are as follows:

III (B) Oil (August 1960)
VI Airfields (see paragraph 3 below)
VII Beaches and Landing Places (November 1960)
VIII (A) Terrain, Climate and Map Coverage (December 1960)*
VIII (B) Towns (September 1961)
VIII (C) Military Engineering Resources (August 1960)*
IX Defences
X (A) Health (August 1962)
X (B) Telecommunications (July 1960)
*Former Somaliland Protectorate only.

3. Information on Airfields and Flying Boat Bases is to be found in J.I.5/72 (Airfield Handbook) and in J.I.5/103/2 (Regional Study); and on Ports in J.I.4/4 series of Port Information Sheets. A general survey of Somali Republic is included in the J.I.B. series of Intelligence Briefing Memoranda (J/49).

4. Except where otherwise stated the information in this report is that available in J.I.B. as at June 1963. Information on roads is very dated and incomplete, and details are lacking of the administrative organisation since the grant of independence in July 1960, also of any projects in hand, and of future plans. Knowledge of design standards and much bridge information is also lacking.

5. Place name spellings and map references are as far as possible taken from the 1:500,000 Series AMS Y 401 (GSGS 4355). Details of map edition and sheet numbers are given in Appendix D to Chapter III.

6. J.I.B. would welcome the views of users of this report on:

(*a*) any statement considered incorrect;
(*b*) any notable omissions;
(*c*) any means of improving the method of presentation.

7. New information received in J.I.B. will be promulgated as soon as possible by the issue of one of the following, depending on circumstances:

(*a*) A *new edition* of this report.
(*b*) *Check Bulletins.*—These will show, as an interim measure pending the issue of (*a*) or (*c*), the main changes affecting the information contained in this report and in any amendments to it issued under (*c*) below. The latest of any Check Bulletins issued is to be *retained with this report and consulted whenever the latter is used.* (As Check Bulletins are cumulative, only the latest need by retained.)
(*c*) *Amendments* in the form of new pages, for incorporation in this report. It is important that such amendments should be correctly incorporated (and recorded on the sheet provided at the front of this report). In preparing Check Bulletins it is assumed that this has been done.

8. Requests for further information, including more detail than that in the text, should be made to:

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MINISTRY OF DEFENCE,
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NORTHUMBERLAND AVENUE,
LONDON, W.C. 2.

Telephone: WHITEHALL 8474, EXT. 637,

or to any overseas J.I.B.

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Map of roads and inland waterways in end pocket. + photocopied section

PREFACE

1. The main object of these Transportation Surveys is to provide Service staffs with information on transportation subjects appropriate to the country concerned, in order to assist them to plan the movement of military forces and stores, and to assess the logistic capabilities and vulnerability of surface transport routes.

2. To help in the assessment of logistic support, route capacity figures are provided. These must be used with great caution, since the term "capacity" is frequently used very loosely, or applied indiscriminately, to different operating conditions. The following paragraphs explain in general terms how the capacity figures should be interpreted, but technical advice should be sought wherever possible.

3. Rail capacity is expressed as the number of trains which can be run each way per day (t.e.w.p.d.) along a given line, together with the average net load in tons which can be carried per train. As an abbreviation, it is shown as a multiplication sum, *e.g.*, 22 × 550. Both figures are estimates only, the one based on the normal characteristics of the line under study and the type of equipment available, the other on an average trainload of mixed military stores. In making these estimates, certain assumptions are also made, viz.:

(i) that adequate staffs are available to operate and maintain the line(s) under study;

(ii) that sufficient personnel are available to load and unload the trains;

(iii) that all trains are worked at freight train speeds.

Further, the capacity figure does not take into account the numbers of locomotives and rolling stock which might be available, nor the adequacy of terminal and other facilities for loading, unloading, sorting, holding and servicing trains. Finally, the number of trains which can be run each way per day is applicable to every line in isolation; it does not follow that two or more lines can be operated simultaneously to maximum capacity, because the total facilities available may not be adequate.

4. On the above basis, capacity figures can be worked out from the intelligence normally available; nevertheless, all such figures should only be taken as a guide for general planning purposes. However, where technical intelligence on a railway system is good, it follows that certain of the above assumptions are no longer necessary as a result of the detailed information available, and a more accurate figure may be calculated.

5. Road capacities are expressed in terms of vehicles each way per day (v.e.w.p.d.), *i.e.*, the number of vehicles which can pass between two points on a given road in each direction per day for a sustained period. The figure is calculated on the use of an average 5-ton vehicle, able to carry a 3-ton net load of military stores. The availability of vehicles, petrol, oil, lubricants and spare parts in sufficient quantities and the existence of adequate vehicle maintenance facilities is assumed. The adverse effect of bad weather on movement as distinct from deterioration of road surfaces is not considered.

6. As with the rail figures, the road capacities given in these reports are based on the intelligence normally available, and are only suitable for general planning purposes.

7. Calculations of the capacity of inland waterway systems cannot be based on empirical methods, and must vary with every waterway under study. Where therefore, IWT capacities are given in the surveys, the assumptions on which the capacities are based will be given in the text of the appropriate chapter.

INTRODUCTION

1. The Somali Republic is dependent almost solely on roads for surface transport. Railways are non-existent and the only navigable waterway, the River Giuba, has little significance, being usable, with difficulty only, by small powered craft and barges.

2. The road network is located mainly in two areas, in the north radiating from Berbera and in the south from Mogadiscio, with a few connecting routes between them. Of a total of some 8,000 route miles only about 400 have a waterproof surface, some 1,400 are of rolled stone and the remaining 6,200 are of natural surface. However, the system is generally adequate for economic needs and significant improvements are unlikely in the foreseeable future.

3. A number of roads connect the country with Ethiopia and Kenya but there is only one route into French Somaliland.

4. Maintenance is indifferent and depends largely on manual labour. Bridging is generally adequate though some ferries still exist. Rain, usually in the form of a few heavy storms, is liable to cause considerable damage and make most natural surface roads virtually impassable. Dust is a hazard in the dry weather.

5. From a military standpoint though the road system would adequately support small forces, it is unlikely to stand up to heavy military traffic for a sustained period.

CHAPTER I

RAILWAYS

There are no railways.

CHAPTER II

INLAND WATERWAYS

General

1. The only navigable waterway is the River Giuba which rises in Ethiopia, in the region of Sidamo, where it is known as the Ganale Doria. From Dolo, at the Ethiopian-Somali frontier, to the sea it assumes the name of the Giuba River proper. It is a wide waterway which rises rapidly in the rainy season and is the largest river on the eastern side of Africa between the Nile and the Zambezi. Flow is perennial and depends upon rainfall and melting snows in the Ethiopian highlands, supplemented by seasonal rains which occur during the period July to October. The other rivers in the country consist of a series of interconnected ravines and pools which become torrents during the short spells of the rainy seasons, but dry up immediately after the rains.

2. In a normal year the Giuba begins to rise in April and at Bardera, near Serenli, an increase in level of 6 ft in a day is not uncommon while at full flood a rise of 16 to 18 ft has been recorded. High water level extends from May to October and then the river begins to fall; low water level is from December to March. The river is tidal up to Ionte, about 25 miles from its mouth.

Navigability

3. The Giuba is navigable, in a normal season, from the end of March to October from its mouth to Serenli a distance of approximately 345 river miles, on a draught of $2\frac{1}{2}$–3 ft, but in a dry year craft do not ascend above Margherita, some 70 miles upstream of Giumbo. The river estuary may be entered at high tide only by vessels drawing 3 ft but minimum depths of 18 ft are reported in the tidal section between Giumbo and Ionte. Throughout its length between Ionte and Serenli navigation is difficult at all times, mainly owing to shifting channels and sandbars, and the tortuous course of the river. The current is strong throughout, in some places attaining a rate of about 8 miles per hour and seldom falling below $3\frac{1}{2}$ miles per hour. Experienced pilots are a necessity. In the upper reaches above Serenli navigation is blocked by rapids and the river is only usable intermittently.

Craft

4. The type of craft used on the river up to Margherita are 30–40-ton flat-bottomed barges drawing 3 ft, towed by tugs. The most suitable tugs are of the twin-screw type, which are easier to handle on the tortuous bends; a tow probably consists of two barges. Self-propelled barges of 25–30 tons have navigated up to Serenli in a good season, but between Margherita and Serenli launches are more usually employed. No information is available on the number of craft employed on the river.

Ports and Ship Repair Facilities

5. No information is available on wharfage along the river. Gobuen acts as a clearing station for river traffic, goods being thence despatched to Chisimaio (Kismayu) by road.

Economic and Strategic Significance

6. The Giuba has little significance as a means of transportation. Its winding course almost doubles the distances to places inland by the river route as compared with the cross-country routes. Added to this are the difficulties of navigation which increases the time taken on journeys. Examples of the latter are: Giumbo to Bardera, 18–20 days upstream; Bardera to Giumbo, 5–7 days downstream.

CHAPTER III

ROADS

General

1. With no railways, and apart from one navigable inland waterway, roads provide the only means of surface transportation in the Somali Republic. The road network is, however, very sparsely distributed and poorly constructed. Most of the roads are rough, natural surface, and little more than desert tracks. Only in the south are there a few waterproof surfaced roads. Camel caravans are still important carriers.

2. During the Italian occupation of Somalia, a programme to construct a number of waterproof and waterbound macadam surfaced roads was begun. The programme came to a halt during World War II, but was not continued during either British or United Nations Trusteeship; in fact, lack of maintenance has resulted in a gradual deterioration until many roads are no longer motorable. In the former British Somaliland Protectorate, a basic network of gravel roads was constructed, but these too are deteriorating for lack of maintenance.

3. The granting of independence, in July 1960, to a territory with a primitive economy, has resulted in a further slowing down of road development, and future construction would be dependent on foreign aid. With the slenderness of the country's resources, far-reaching improvements are unlikely for many years.

Administration

4. Prior to independence, planning, construction and maintenance of roads in the Somaliland Protectorate was the responsibility of the Public Works Department. In Somalia, under United Nations Trusteeship, the Italians established a Government Transportation and Public Works Department which included responsibility for roads. There is now a Ministry of Public Works and Communications, with regional directors.

The Road System

5. By the end of 1960 the system consisted of about 8,000 miles of roads, of which some 396 miles had a waterproof surface, 1,359 miles a rolled stone surface (murram,* gravel and stone), while the remaining 6,245 miles were natural surface roads (earth and sand). The main routes are described in detail in Appendix A, and are shown on the map in the end pocket.

6. The road network is spread over two main areas, in the south radiating fanwise from the capital and main port of Mogadiscio, and in the north radiating from Berbera. A sparse natural surface network in the north-east joins the two areas.

7. The principal connections with neighbouring countries are:

With French Somaliland:

Zeila to Jibuti (Route 96)

With Ethiopia:

(*a*) Hargeisa and Tug Wajale Post to Giggiga and Harar (Routes 96 and 97)
(*b*) Hargeisa to Awareh and Scillave (Route 9)
(*c*) Burao and Duruksi to Scillave (Route 90)
(*d*) Belet Uen and Ferfer to Scillave, Giggiga and Harar (Route 6)
(*e*) Oddur and El Goran to Mustahil and Callafo (Route 3)
(*f*) Lugh Ferrandi and Dolo to Filtu and Neghelli (Route 4)

With Kenya:

(*a*) Lugh Ferrandi and Dolo to El Wak (Routes 49 and 31)
(*b*) Bardera and Wel Garis to Wajir (Route 3)
(*c*) Chisimaio to Liboi, Garissa and Nairobi (Route 1).

---

* An indigenous reddish coloured laterite gravel.

Design Standards

8. Prior to independence, the PWD in British Somaliland constructed some tarmacadam surfaced roads around Hargeisa and Berbera, and improved a number of natural surface roads, using three types of local materials, viz., sand, gravel and rock. These roads were constructed with a hand-pitched stone base, a regulating course of 2-in. stone, and a bitumen grouted surface with a spread of approximately $1\frac{1}{2}$ to 2 gallons of bitumen emulsion to the square yard.

9. Sand and gravel surfaced roads are to be found throughout the ex-Protectorate, and rock surfaced roads in the escarpment and south-east region. Very few of these roads have any formation. They have mostly been worn down by a succession of vehicles, and improved by grading and stone pitching, with the occasional provision of culverts and drainage ditches. Where constructed or improved, two-way roads in this area are nearly all 24 ft wide, with 2 ft shoulders and $1\frac{1}{2}$ ft drainage ditches, and one-way roads are 12 ft wide.

10. In the former United Nations Trust Territory of Somalia, the Italians, during their period of occupation before World War II, had embarked on a programme of waterbound macadam construction (with the exception of the waterproofed Strada Imperiale (Route 6) and uncompleted Mogadiscio to Dolo road (Route 4)). It is believed that the Strada Imperiale was constructed on a 12 in. stone and linestone formation, with 1 in. bitumen surface, 20 ft wide, with up to 3 ft shoulders on each side. In post-war years, almost without exception, the waterbound macadam and gravel surfaced roads in this territory have gradually reverted to their natural state, due to increased traffic and general lack of maintenance.

11. Nothing is known of the design standards in use by the newly constituted Republic.

Maintenance and Materials

12. The main problems in maintenance arise from the very dry climate, the rapid run-off which occurs after rain, and the inadequacy of mechanical equipment, which is limited to a few auto-patrol and light-towed graders. Because of the dry climate the problem of dust and corrugations is acute, and waterbound macadam and gravel surfaces tend to deteriorate rapidly. The run-off which follows rain results in damage where streams cut the road.

13. Maintenance is indifferent and is largely carried out by hand labour, usually consisting of filling potholes, stone pitching and grading of sand surface roads. Maintenance of water-bound macadam surfaces by mechanical means has proved difficult where the roads contain large stones.

14. Supplies of sand, and of limestone which can be used without breaking, are fairly plentiful over large areas, whilst in the south some 30 small quarries produce stone for building and hard core for roads. Sand and gravel can also be obtained from the alluvial deposits of the Rivers Giuba and Uebi Scebeli. In places it is difficult to obtain suitable materials, particularly where cohesionless sand and gravel or gypseous soils exist; the latter abrade rapidly in dry weather and in wet weather become a sticky morass. There is no cement plant, and bitumen has to be imported.

Bridges, Tunnels and Ferries

15. Because most watercourses (locally called " tugs ") are dry for the greater part of the year (with the exception of the Rivers Giuba and Uebi Scebeli and their tributaries), the need for high-level bridging is small and few bridges have been constructed.

16. In the ex-British Protectorate the PWD used no official standards of bridge design, though a few 20 to 60 ft reinforced concrete and masonry bridges, Class 12, were constructed between Berbera, Hargeisa and the Ethiopian frontier (Route 9). Generally throughout this area watercourses are crossed by fording, or by Irish bridges incorporating oil drums embedded in hard core. A number of culverts were manufactured in the PWD workshops in Hargeisa of prestressed concrete with 6-ft span.

17. The Italians constructing the military highway between Mogadiscio and Ferfer (Route 6) used a standard design of bridging for crossing the numerous dry " tugs ". These bridges were made up of one or more standard spans, 16, 24 or 27 ft in length, of reinforced concrete slabs supported on T beams, and each consisting of 10 RSJs (14-in. web) supporting 4-in. decking on masonry piers and abutments. In some cases RSJs were encased in concrete and supported concrete slabs. Culverts were of a similar design with standard spans of 3, 7 or 10 ft.

18. For details of major bridges, tunnels and ferries see Appendix B. The load classifications quoted are generally based on information from wartime and the immediate post-war years, and should be used with care.

Effects of Weather

19. The climate of the Somali Republic is hot and dry for most of the year with slight and irregular rainfall. The summer or south-west monsoon (Kharif) blows from June to September and is a period of high temperatures and strong dust-laden winds. The winter or north-east monsoon prevails from December to March, bringing warm and pleasant weather.

20. Rainfall is intermittent and erratic, most falling in a few heavy storms, with considerable variation between areas, decreasing northwards. The wettest months are normally from April to September.

21. In dry weather dust storms and dust on the surface constitute a hazard, cutting down visibility, choking air cleaners and forming drifts. Traffic on natural surface routes causes corrugations which only constant grading can eradicate.

22. Rain is liable to make most natural surface roads virtually impassable, and, in the south, the Italian Administration in the past ordered all non-waterproof surfaced roads to be closed to motor traffic from mid-October to mid-November to prevent them being cut up. A number of routes follow the alignment of dry " tugs ", which, in rain, become roaring torrents, and are known to rise in spate, in a matter of a few hours, to dimensions 6 ft by 300 ft. Though only running 6 to 8 hours, they cause considerable damage to paved crossings and their approaches, and bring all movement to a standstill for periods of up to 72 hours.

Road Transport

23. In 1961 the vehicle park was reported as:

Motor cars	3,200
Trucks	4,300 (plus 434 trailers)
Buses	104
Motor cycles	600
	8,204

85 per cent of the trucks and 50 per cent of the buses are pre-World War II. Nearly 85 per cent of the cars are post-World War II.

New Works and Future Plans

24. For a number of years before independence, major construction projects were apparently shelved, and attention was given only to repairing and improving short stretches of the principal routes. Revenue is inadequate to support large-scale road development, and recently announced projects are to be financed with foreign aid.

25. Projects announced during 1961 and 1962 include:

(*a*) construction of a surfaced road between Afgoi and Vittorio d'Africa

(*b*) construction of a new road between Chisimaio and Margherita

(*c*) improvement to road between Chisimaio and Gelib

(*d*) construction of roads from Las Khoreh to Haberru, and from Taleh to Erigavo.

There is no information on progress of these projects.

MILITARY SIGNIFICANCE

26. The road system of Somalia is in general adequate for the country's present economic needs, and would present little difficulty for movement of small forces, except in certain areas in the rainy season. The roads would, however, be unlikely to stand up to heavy traffic for a sustained period. Moreover, the many unbridged watercourses when in spate may offer obstacles to movement for several days at a time. Cross-country movement is possible over large areas of the country with varying degrees of ease.

APPENDIX A to CHAPTER III

ROUTE DESCRIPTIONS

SUMMARY

Route No.	*Section*
1	MOGADISCIO (MOGADISHU)–AFGOI–GELIB–MARGHERITA –CHISIMAIO (KISMAYU)–IDA–LIBOI
11	IDA–AFMADU–DIF
14	CHISIMAIO (KISMAYU)–BAD ADDEI–KOLBIO
2	LUGH FERRANDI–GARBA HARRE–BARDERA–GELIB
3	WEL GARIS–BARDERA–DINSOR–ISCIA BAIDOA–ODDUR –EL GORAN
30	BARDERA–EL WAK
31	DOLO–MANDERA
4	MOGADISCIO (MOGADISHU)–AFGOI–UANLE UEN–BUR ACABA–ISCIA BAIDOA–LUGH FERRANDI–DOLO
41	MERCA–AUDEGELE–BUR ACABA
44	DINSOR–AVAI–MODUN–BRAVA
49	LUGH FERRANDI–MANDERA
5	BULO BURTI–EL DUBBO–TIGIEGLO–ODDUR–IET
51	TIGIEGLO–BUGDA COSAR–BELET UEN
57	ISCIA BAIDOA–UEGIT–ALAMA–IET
58	ODDUR–UEGIT–LUGH FERRANDI
59	LUGH FERRANDI–IET–EL BERDE–EL GORAN
511	BUGDA COSAR–EL GORAN
6	MOGADISCIO (MOGADISHU)–BALAD–MAHADDEI UEN– BULO BURTI–BELET UEN–FERFER
60	FERFER–EL DERE–SINADOGO
61	BULO BURTI–GIGLEI–BELET UEN
64	MAHADDEI UEN–ITALA
65	MOGADISCIO (MOGADISHU)–ITALA–EL DERE–MEREGH– HARARDERA (ADIM)
7	MAHADDEI UEN–GAL TARDO–BUD BUD–DIRRI HARAR- DERA (ADIM)–OBBIA–DABARO–EL HAMURRE–EIL
75	ROCCA LITTORIO (GALLACAIO)–OBBIA
8	BULO BURTI–IESOMMA–EL BUR–DUSA MAREB– GHELINSOR–ROCCA LITTORIO (GALLACAIO)–GAROE– GARDO–BENDER CASSIM (BOSASO)
82	SINUGIF–EIL
84	GARDO–DUDO–BENDER BEILA
86	LAZ DAUA–MELEDIN–SCUSCIUBAN–HORDIO
87	CARIN–TISGIEH–MELEDIN
88	SCUSCIUBAN–EL GAL–CANDALA
89	TOHEN–ALULA–DURBO–EL GAL

Route No.	*Section*	
9		BERBERA – DARBURRUK – BEDERWANAK – HARGEISA – Ethiopian frontier at JDE 895869
90		BERBERA–UPPER SHEIKH–BURAO–EIK–BURAO KIBIR–DURUKSI
91		Junction Route 9 at JDM 157615–BURAO–AINABO–LAS ANOD–BIHEN–GAROE
	A	Junction Route 9 at JDM 157615–Adadle–Burao
	B	Burao–Ber–Ainabo–Las Anod
	C	Las Anod–Bihen–Garoe
92		KIRIT–BOHOTLEH WEIN
93		AINABO–QARADAG–EL AFWEIN–ERIGAVO–MAIT
94		BEDERWANAK–ODWEINA–GHOR ODWEINA
95		TUG WAJALE POST–DURUKSI–BOHOTLEH WEIN–DARKEIN GENYO–BIHEN–HALIN
96		HARGEISA – BORAMA – BAWN – ABDELCADER (ABDUL GHADIR)–SILLIL–ZEILA–LOUADA
97		KALABID–TUG WAJALE POST
98		ABDELCADER (ABDUL GHADIR)–Ethiopian frontier at BEIO ANOT (BEYU ANOD)
99		SILLIL–GARISA–BAWN
901		BERBERA–BULHAR–GABOD–ZEILA
902		BERBERA–KARIN–RAGUDA–MAIT–LAS KHOREH–BENDER ZIADA–BENDER CASSIM (BOSASOL)
903		BERBERA–LAS DUREH–EL AFWEIN
911		Junction Route 91 at KDH 304106–WARIDAD–Junction Route 93 at KDJ 2236
921		BOHOTLEH WEIN–WUDWUD–LAS ANOD–HAGRAJIN
930		DERO ERI–HUDIN–HALIN–LAS WORWAR
931		HALIN–DANAN–ERIGAVO
932		ERIGAVO–EL HAGA–BURAN–LAZ DAUA
933		ERIGAVO–JIDALI–HABERRU (HABERA)–BURAN

ROUTE 1

MOGADISCIO (MOGADISHU)–AFGOI–GELIB–MARGHERITA–CHISIMAIO (KISMAYU)–IDA–LIBOI (450 miles)

Maps used: Sheets NA 38/2, NA 38/4, SA 38/1 and NA 37/6

Surface and construction: Mogadiscio to Afgoi, tarmacadam, Type 2; Afgoi to Ida, murram, Type 4; Ida to Liboi, natural soil, Type 5

Condition: To Ida fair to good; thereafter poor (late 1962)

Width: To Afgoi 23 ft with maximum 3-ft shoulders; thereafter 20 to 30 ft

Gradients and curves: Negligible

Capacity (see Preface): Mogadiscio to Afgoi 2,300 v.e.w.p.d.; thence to Ida 450 v.e.w.p.d. and finally to Liboi 270 v.e.w.p.d.

Seasonal restrictions: Except for the waterproof surfaced section, route is liable to become impassable for short periods during and just after rain (April, May, and September to mid-November) particularly between Margherita and Chisimaio. Section Ida to Liboi liable to be closed to all traffic from mid-October to mid-November

Terrain: Between Mogadiscio and Gelib route runs between the coast and an inland watercourse. Terrain between Margherita and Chisimaio is low-lying swampy ground which is liable to flooding by the River Giuba. Between Chisimaio and Liboi route crosses flat or slightly undulating bush country. Movement off the road throughout is generally possible in dry weather

Bridges and ferries: To Gelib there are no bridges or ferries. The River Giuba is crossed by a newly constructed steel bridge at Margherita. For details see Appendix B (Serial 1/1)

Other engineering features: To Afgoi there are five culverts whilst between Margherita and Chisimaio road runs on a culverted causeway for 200 yds

Route limitations: Route suitable for Class 70 (military) traffic

Current and future developments:

(*a*) In 1961 20 miles of a new gravel road under construction between Margherita and Chisimaio were completed and open

(*b*) In February 1962, approval was given for construction of a bitumen surfaced road between Afgoi and Vittorio d'Africa, project due to start in 1962

(*c*) In June 1962 a new bridge was reported as opened somewhere between Gelib and Chisimaio. Neither details nor location are available

Remarks:

(*a*) Between Afgoi and Vittorio d'Africa, there are two roads running side by side. The old earth road, providing fair going in dry season, is used by traffic in preference to the newly constructed metalled road

(*b*) Between Margherita and Chisimaio there is an alternative route, 45 miles long, crossing the river Giuba by ferry at Giumbo (see Appendix B, Serial 1/2). In 1961 it was reported as having a single traffic earth surface in good condition, but passable with difficulty during rainy season

(*c*) Through traffic to Liboi can eliminate Chisimaio by crossing the river Giuba by ferry at Ionte and using earth track to join route at Ida

(*d*) At Liboi road crosses frontier and continues to Garissa and Nairobi in Kenya

ROUTE 11

IDA–AFMADU–DIF (117 miles)

Maps used: Sheets NA 38/4 and NA 37/6

Surface and construction: Improved natural soil, sand and hard surface, Type 5. There are indications that section Afmadu to Dif may have been tarred in immediate post World War II years

Condition: Poor (1946)

Width: 30 ft

Gradients and curves: Negligible

Capacity (see Preface): 335 v.e.w.p.d.

Seasonal restrictions: Route impassable after heavy rain particularly in black cotton soil areas which cut up badly

Terrain: To Afmadu route crosses flat country covered with thick bush and trees. Afmadu to Araroba, stretches of black cotton and sandy soil with sporadic patches of open country. Thereafter flat sandy country with thick bush. It is generally possible to move off the route anywhere in dry weather except in places across the last 10 miles where the bush is too thick

Bridges and ferries: None

Other engineering features: None

Route limitations: Not known

Current and future developments: No information

Remarks:

(*a*) From Afmadu a rather overgrown black cotton soil road leads to Belesc Cogani where it joins the main Mogadiscio to Kenya road (Route 1). Surface reported as being very bad in parts after rain

(*b*) At Dif route crosses frontier with Kenya and runs parallel with it over East Africa B.I.S. Route K6 to Wel Ade and to Wajir via East Africa B.I.S. Route K9

ROUTE 14

CHISIMAIO (KISMAYU)–BAD ADDEI–KOLBIO (134 miles)

Maps used: Sheets SA 38/1 and SA 37/3

Surface and construction: Unimproved soil, Type 6

Condition: Poor (September 1955)

Width: Not known, probably single carriageway

Gradients and curves: Negligible

Capacity (see Preface): Insufficient data to classify

Seasonal restrictions: Motorable in dry weather only

Terrain: Route crosses thick bush, occasionally swampy, with patches of thick forest near Chisimaio and finally through elephant country. It is possible, though difficult, to move off the road. Overhead cover is good

Bridges and ferries: None

Other engineering features: None

Route limitations: Not knqwn

Current and future developments: No information

Remarks: From Kolbio route crosses frontier into Kenya and continues to Bura

ROUTE 2

LUGH FERRANDI–GARBA HARRE–BARDERA–GELIB (267 miles)

Maps used: Sheets NA 38/1 and NA 38/4

Surface and construction: Improved natural earth and sand, Type 5

Condition: Poor to Bardera, thereafter fair (February 1960)

Width: 12 to 15 ft with no shoulders

Gradients and curves: Lugh Ferrandi to Garba Harre hilly though no outstanding gradients; thereafter undulating

Capacity (see Preface): 160 v.e.w.p.d.

Seasonal restrictions: Motorable in dry weather only

Terrain: From Lugh Ferrandi route follows the valley on the west bank of the River Giuba; thence through hilly terrain covered with medium scrub to Garbe Harre. No information between Garba Harre and Bardera. From Bardera for 35 miles flat cultivated country with numerous shallow watercourses, some with unduly steep banks. A thick forest belt is entered 54 miles from Gelib. Throughout, movement off the road is generally difficult

Bridges and ferries: No known bridges. For details of ferry at Bardera, see Appendix B (Serial 2/1)

Other engineering features: None

Route limitations: Limited to 23 tons by ferry at Bardera otherwise route reported as passable by all types of military vehicles

Current and future developments: No information

Remarks: None

ROUTE 3

WEL GARIS–BARDERA–DINSOR–ISCIA BAIDOA–ODDUR–EL GORAN (370 miles)

Maps used: Sheets NA 37/6, NA 37/3, NA 38/1, NB 38/4 and NB 38/5

Surface and construction: To Iscia Baidoa, murram, Type 4, though surface on some short stretches has deteriorated and been maintained with earth. Iscia Baidoa to Oddur improved soil, Type 5; thence to El Goran stone foundation with gravel surface, Type 4. Road drainage in places

Condition: Poor (1962) though passable to motor transport

Width: 18 to 25 ft

Gradients and curves: Undulating, with numerous bends for ten miles before Iscia Baidoa. Between Iscia Baidoa and Oddur a nine-mile hill section is encountered; final section to El Goran is hilly in places

Capacity (see Preface): To Iscia Baidoa 290 v.e.w.p.d. then 215 v.e.w.p.d. to Oddur and 290 v.e.w.p.d. to El Goran

Seasonal restrictions: To Iscia Baidoa road is subject to hindrance during rainy season, especially over sections liable to washouts. Iscia Baidoa to Oddur motorable in dry weather only. Oddur to El Goran passable in most weathers

Terrain: To Iscia Baidoa generally flat undulating country covered with thick bush crossing numerous watercourses. Thence to Dinsor, scrub, impassable to vehicles. Movement off the road only possible in dry weather in areas of light bush. Dinsor to Oddur is flat agricultural country except for a nine-mile hill section. Thereafter to El Goran flat to hilly terrain covered with thorn bush

Bridges and ferries: For details of two major bridges and one ferry see Appendix B (Serials 2/1, 3/1 and 4/2). No information on minor bridges

Other engineering features: On leaving the Kenya frontier road is built on several causeways over watercourses

Route limitations: Route suitable for class 24 (military) traffic

Current and future developments: Reported in 1959 as receiving poor maintenance throughout, and all traffic passing by Uegit (Routes 57 and 58)

Remarks:

(*a*) From Wel Garis route joins East Africa B.I.S. Route K9 and continues to Wajir

(*b*) From El Goran route crosses Ethiopian frontier and continues to Mustahil and Callafo

ROUTE 30

BARDERA–EL WAK (97 miles)

Maps used: Sheets NA 38/1 and NA 37/3

Surface and construction: Unimproved natural earth and sand, Type 6. No drainage ditches

Condition: Poor (December 1945)

Width: Not known, probably single carriageway

Gradients and curves: Hilly, though gradients and curves are not severe

Capacity (see Preface): Insufficient information to classify

Seasonal restrictions: Motorable in dry weather only. Track crosses numerous rivers and watercourses which become washaways and torrents during rainy season

Terrain: Road runs through bush country crossing innumerable tugs, undulating in places through hilly country with drifts in the valleys. Movement off the road is generally possible in dry weather

Bridges and ferries: None

Other engineering features: None

Route limitations: Not known

Current and future developments: No information

Remarks: From El Wak road crosses the Kenya frontier and continues to Wajir and Nairobi via East Africa B.I.S. Route K8B

ROUTE 31

DOLO–MANDERA (22 miles)

Maps used: Sheets NB 38/4, NB 37/6 and NA 37/3

Surface and construction: Improved natural sand and clay, Type 5. Surfaced with gypsum in places and ditched

Condition: Fair (February 1950). A reasonably smooth and hard sand road

Width: 15 ft

Gradients and curves: Hilly, with several sharp gradients

Capacity (see Preface): 140 v.e.w.p.d.

Seasonal restrictions: Sections flooded by the Daua Parma river and generally impassable in the rainy season; probably fairly quick drying. Very dusty in dry weather

Terrain: Road runs parallel with the Ethiopian frontier and close to the south bank of the Daua Parma River, passing through thin bush and rocky outcrops. Movement off the road is generally possible throughout

Bridges and ferries: Twenty minor bridges and culverts are crossed. No major bridges. For details of ferry at Dolo over Daua Parma see Appendix B (Serial 4/5)

Other engineering features: None

Route limitations: Not known

Current and future developments: No information

Remarks:

(*a*) From Mandera a natural surface motorable road runs parallel and east of the Kenya frontier to El Wak

(*b*) From Mandera route crosses Kenya frontier and continues to El Wak via East Africa B.I.S. Route K8B

ROUTE 4

MOGADISCIO (MOGADISHU)–AFGOI–UANLE UEN–BUR ACABA–ISCIA BAIDOA–LUGH FERRANDI–DOLO (308 miles)

Maps used: Sheets NA 38/2, NA 38/1 and NB 38/4

Surface and construction: To Afgoi tarmacadam, Type 2; thence to Iscia Baidoa improved red clay and black cotton soil with murram sections, Type 5. Iscia Baidoa to Dolo, sections totalling 96 miles (out of 149 miles) tarmacadam, Type 2, with remaining sections murram on stone foundation, Type 4. Roads throughout generally cambered to shallow side drains and often ditched on higher side

Condition: Fairly good, though potholed and rough in places. Surface wears well in wet weather (end 1962)

Width: To Afgoi 23 ft with maximum 3-ft sand shoulders; thereafter 18 to 30 ft

Gradients and curves: Negligible except for one fairly steep gradient up escarpment four miles east of Iscia Baidoa

Capacity: To Afgoi 2,300 v.e.w.p.d. then 305 v.e.w.p.d. to Iscia Baidoa and finally 405 v.e.w.p.d. to Dolo

Seasonal restrictions: No restrictions to Afgoi; thereafter subject to hindrance during wet seasons, though section Lugh Ferrandi to Dolo has been reported as passable to vehicles at all seasons. Dust is a hazard in dry weather

Terrain: To Afgoi road undulates through sand dunes covered with thick scrub, with patches cleared for wet season cultivation affording difficult movement off the road for wheeled vehicles during wet season. Thereafter, through generally flat country covered with medium scrub and some cultivation permitting movement off the road in areas of light scrub in dry season

Bridges and ferries: Two major bridges and three ferries. For detailed description see Appendix B (Serials 4/1 to 4/5). In addition, three modern 50-ft bridges are located 8 to 10 miles south of Lugh Ferrandi

Other engineering features: Section Lugh Ferrandi to Dolo is generally embanked 3 ft above surrounding country. Of numerous concrete slab and pipe culverts, some 70, with up to 30 ft span, are located on Lugh Ferrandi to Dolo section. Between Afgoi and Iscia Baidoa there are 30 Irish bridges over watercourses with concrete and tarmacadam surfaces

Route limitations:

(*a*) Mogadiscio to Afgoi suitable for class 70 (military) traffic

(*b*) Afgoi to Iscia Baidoa limited to 18 tons due to low capacity bridge at Afgoi

(*c*) Iscia Baidoa to Dolo limited to 6 ton traffic by ferries at Lugh Ferrandi and Dolo

Current and future developments: In 1956 paving of sections between Afgoi and Bur Acaba was being undertaken. No further details available

Remarks: From Dolo route crosses the frontier with Ethiopia at the River Daua Parma and continues to Filtu and Neghelli as Ethiopia B.I.S. Route 4

ROUTE 41

MERCA–AUDEGELE–BUR ACABA (98 miles)

Maps used: Sheets NA 38/5 and NA 38/2

Surface and construction: Merca to Vittorio d'Africa tarmacadam Type 2, then for ten miles the main Mogadiscio to Chisimaio road (see Route 1) is followed (murram, Type 4). Thence to Bur Acaba improved natural soil on stone foundation, Type 5

Condition: Fair (1942–62)

Width: 30 ft

Gradients and curves: Negligible

Capacity (see Preface): 380 v.e.w.p.d.

Seasonal restrictions: A dry weather route only: the first 20 and last 6 miles liable to flooding by River Uebi Scebeli and numerous watercourses

Terrain: The first 15 miles to Audegale crosses highly cultivated country thence orchard bush affording fair cover from the air. Movement off road is difficult for first 15 miles due to irrigation ditches; thereafter possible except for one or two swampy patches

Bridges and ferries: For details of two major bridges see Appendix B (Serials 41/1 and 41/2). No information on minor bridges

Other engineering features: Road embanked for stretches over swamps between Audegele and Bur Acaba

Route limitations: Route reported as capable of taking 8-ton loads

Current and future developments: No information

Remarks: None

ROUTE 44

DINSOR–AVAI–MODUN–BRAVA (141 miles)

Maps used: Sheets NA 38/1, NA 38/4 and NA 38/5

Surface and construction: Dinsor to junction Route 1 at JAL 6628 improved earth, Type 5; Modun to Brava tarmacadam, Type 2. Drainage ditches only on section junction Route 1 to Brava

Condition: Poor to junction Route 1; thereafter fair and potholed in places (December 1962)

Width: 10 ft to junction Route 1; thereafter 20 ft

Gradients and curves: Negligible gradients. Several sharp curves between Modun and Brava

Capacity (see Preface): 170 v.e.w.p.d.

Seasonal restrictions: Motorable in dry weather only, as far as junction Route 1; thereafter to Brava no restrictions

Terrain: From Dinsor mostly covered with medium bush. Around Avai cultivated plantations, then after crossing the Uebi Scebeli, road parallels the Uebi Gofca River and crosses a low-lying swampy area extending to junction Route 1. From Modun to Brava route climbs and descends 300-ft foothills in a series of steep and sharp curves

Bridges and ferries: For detailed description of major bridge crossing Uebi Scebeli see Appendix B (Serial 44/1). No information on minor bridges

Other engineering features: At mile 26 road crosses a 90 ft causeway over steep-sided Bohol Lehere. After crossing the Uebi Scebeli at Avai road runs on an embankment for 3 miles across swamps

Route limitations: Route suitable for 18-ton loads

Current and future developments: No information

Remarks: None

ROUTE 49

LUGH FERRANDI–MANDERA (43 miles)

Maps used: Sheets NA 38/1 and NA 373/

Surface and construction: Unimproved natural soil with sandy patches, Type 6, with no side drainage

Condition: Poor (1954)

Width: 10 to 15 ft

Gradients and curves: Negligible

Capacity (see Preface): 50 v.e.w.p.d.

Seasonal restrictions: Motorable in dry weather only

Terrain: To mile 7, route follows the Lugh Ferrandi to Dolo road (Route 4), thereafter to Mandera, generally flat medium open bush country. At mile 28 the road crosses a dry river bed which contains water during the rains

Bridges and ferries: None

Other engineering features: None

Route limitations: Not known

Current and future developments: No information

Remarks: None

ROUTE 5

BULO BURTI–EL DUBBO–TIGIEGLO–ODDUR–IET (197 miles)

Maps used: Sheets NB 38/4, NA 38/5 and NA 38/2

Surface and construction: To Tigieglo unimproved natural earth, Type 6: Tigieglo to Oddur improved natural soil with some gravel surfacing that has deteriorated, Type 5; Oddur to Iet unimproved natural earth, Type 6

Condition: Very poor between Bulo Burti and Tigieglo; thereafter fair to poor (June 1959)

Width: To Tigieglo not known; thence to Oddur 15 to 20 ft. Oddur to Iet generally one-way with alternative alignments through bush by-passing bad patches of surfacing

Gradients and curves: Not severe

Capacity (see Preface): Insufficient information to classify

Seasonal restrictions: Motorable in dry weather only. Section Oddur to Iet crosses numerous watercourses which are filled with water in rainy seasons. Dust hazard during dry seasons.

Terrain: No information between Bulo Burti and Tigieglo. From Tigieglo to Oddur, open flat undulating bush country covered with medium scrub with patches of cultivation around Oddur. Movement off the road is possible throughout. Leaving Oddur alignment of a sandy tug is followed for 10 miles across open terrain partially cultivated; thereafter to Iet generally thick thorn bush. Section Oddur to Iet runs on a slightly raised alignment and in wet weather it is impossible to leave the road and by-pass bad patches because the surrounding country becomes swampy

Bridges and ferries: None

Other engineering features: None

Route limitations: Not known

Current and future developments: In June 1959 little or no maintenance was being carried out

Remarks: None

ROUTE 51

TIGIEGLO–BUGDA–COSAR–BELET UEN (90 miles)

Map used: Sheet N 38/5

Surface and construction: Unimproved natural earth and sand, Type 6, with last 10 miles into Belet Uen having stone and gravel surfacing on middle section, Type 5. No shoulders or drainage ditches

Condition: Very poor (June 1959)

Width: 15 to 20 ft

Gradients and curves: Nothing severe

Capacity (see Preface): 155 v.e.w.p.d.

Seasonal restrictions: A dry weather route only

Terrain: From Tigieglo road runs for 68 miles on hills covered with medium bush scrub. Movement off the road is possible

Bridges and ferries: For detailed description of major bridge see Appendix B (Serial 51/1). No information on minor bridges

Other engineering features: None

Route limitations: Limited to 24 tons by bridge at Belet Uen

Current and future developments: Reported as receiving poor maintenance in June 1959

Remarks: None

ROUTE 57

ISCIA BAIDOA–UEGIT–ALAMA–IET (117 miles)

Maps used: Sheets NA 38/1 and NB 38/4

Surface and construction: Improved natural surface, Type 5, with stretches between Iscia Baidoa and Uegit gravelled

Condition: Fair, though rutted and rough in places (March 1955)

Width: To Uegit 15 ft in 30 to 40-ft clearing, though a thorn scrub hedge in places restricts motorable surface to 12 ft. Uegit to Iet 10 to 20 ft with frequent passing places in 30 to 40-ft clearing

Gradients and curves: No sharp curves. Gradients maximum 1 in 20 (5 per cent)

Capacity (see Preface): 225 v.e.w.p.d. to Uegit; thereafter 190 v.e.w.p.d.

Seasonal restrictions: Dry weather route only, though passable by occasional light vehicles in wet weather

Terrain: Escarpment is climbed on leaving Iscia Bardoa; thereafter cultivation giving way to scrub over flat country to Uegit. Leaving Uegit road climbs over escarpment emerging onto undulating plain with dense thorn bush and frequent rock outcrops. Movement off the road is possible anywhere

Bridges and ferries: None

Other engineering features: For first three miles on leaving Iscia Bardoa road is embanked and crosses ten pipe culverts. Between Uegit and Iet road crosses a few small watercourses, dry at some seasons, by fords with mud surfacing

Route limitations: Suitable for class 18 (military) traffic in dry weather only

Current and future developments: Maintenance reported as poor in June 1959

Remarks: None

ROUTE 58

ODDUR–UEGIT–LUGH FERRANDI (104 miles)

Maps used: Sheets NA 38/1 and NB 38/4

Surface and construction: Oddur to Uegit stone and gravel, Type 4. Uegit to Lugh Ferrandi improved natural earth with patches of stone or murram, Type 5

Condition: To Uegit fairly good (March 1955); thereafter poor (January 1950)

Width: 15 to 20 ft. Section Oddur to Uegit generally two-way

Gradients and curves: Negligible

Capacity (see Preface): Oddur to Uegit 395 v.e.w.p.d.; thereafter 235 v.e.w.p.d.

Seasonal restrictions: Oddur to Uegit generally passable at all seasons though may be subject to slight hindrance after heavy rain in April and May. Uegit to Lugh Ferrandi motorable only in dry season

Terrain: Undulating to flat stony sand country covered with thick scrub, except for open patches around villages and waterholes. Good cover from the air

Bridges and ferries: None

Other engineering features: Between Uegit and Lugh Ferrandi numerous sandy tugs with steep banks are forded

Route limitations: Not known

Current and future developments: No information

Remarks: None

ROUTE 59

LUGH FERRANDI–IET–EL BERDE–EL GORAN (176 miles)

Maps used: Sheets NA 38/1 and NB 38/4

Surface and construction: Unimproved natural surface on underlying rock, Type 6

Condition: Very poor (February 1950). Sections between Iet and El Goran hardly discernible in places

Width: Minimum 12 ft where carriageway has been eroded by watercourses, in 20 to 30-ft clearing

Gradients and curves: Curves winding though not severe. Gradients maximum 1 in 20 (5 per cent) two miles from Iet

Capacity (see Preface): 55 v.e.w.p.d.

Seasonal restrictions: Motorable in dry weather only. Section Iet to El Goran extremely dusty in dry seasons

Terrain: To Iet route crosses mostly flat bush country with a hill section at mile 21. Road is cut by numerous small transverse gullies and several watercourses whose approaches are difficult. From Iet to El Goran terrain is rough and rocky covered with bush of varying thickness with centre 10 miles section of open grassland

Bridges and ferries: None

Other engineering features: None

Route limitations: In February 1950 reported that vehicles larger than 3-ton trucks would experience difficulties in crossing some wadis

Current and future developments: No information

Remarks: From Iet a natural surface motorable road, parallel with the Ethiopian frontier, runs for 51 miles to Dolo, crossing flat to hilly country

ROUTE 511

BUGDA COSAR–EL GORAN (118 miles)

Map used: Sheet NB 38/5

Surface and construction: Improved earth, Type 5. No shoulders or drainage ditches

Condition: Poor (1959)

Width: 15 to 20 ft

Gradients and curves: Negligible

Capacity (see Preface): 235 v.e.w.p.d.

Seasonal restrictions: Motorable in dry weather only

Terrain: Open flat bush country with bush considerably encroaching the road. Five tugs with steep banks are crossed where road is liable to become washed away during wet season. Movement off the road is possible in dry season. Cover is not good

Bridges and ferries: None

Other engineering features: None

Route limitations: Not known

Current and future developments: No maintenance was reported being carried out in June 1959

Remarks: None

ROUTE 6

MOGADISCIO (MOGADISHU)–BALAD–MAHADDEI UEN–BULO BURTI–BELET UEN–FERFER (234 miles)

Maps used: Sheets NA 38/2 and NB 38/5

Surface and construction: Tarmacadam, Type 2, with earth or grass shoulders and drainage ditches

Condition: Fair to good, with broken up and eroded patches on 80-mile section between Villaggio Duca degli Abruzzi and Bulo Burti (July 1960)

Width: 16 ft with 4-ft shoulders, though motorable surface in places reduced by thick encroaching vegetation

Gradients and curves: No severe curves. Gradients maxium 1 in 20 (5 per cent)

Capacity (see Preface): 1,810 v.e.w.p.d.

Seasonal restrictions: None

Terrain: Across sand dunes covered with thick low scrub to Balad, where flat cultivated land borders the river Uebi Scebeli. From there to Villaggio Duca degli Abruzzi scrub of varying density. Thence to Bulo Burti flat lightly covered scrub country. From Bulo Burti the alignment follows foot of hills bordering the river valley, crossing an occasional spur and broken by many sand and rocky wadi beds, to Belet Uen. Between Belet Uen and Ferfer Road follows edge of Uebi Scebeli valley at foot of an escarpment. Cross-country movement is possible, but difficult in open country

Bridges and ferries: Eleven major bridges. For detailed description see Appendix B (Serials 6/1 to 6/11). No information on minor bridges

Other engineering features: Road for long stretches has been constructed on an embankment varying between 2 and 12 ft in height. Embankment shoulders are eroded in places and in need of maintenance. Route has been culverted throughout

Route limitations: Class 24 imposed by bridges at Balad and Bulo Burti, though it is known that they have carried 40-ton loads; otherwise road suitable for class 70 (military)

Current and future developments: In December 1962 repairs in progress for some 10 miles south of Villaggio Duca degli Abruzzi, requiring temporary use of an unimproved earth road running to westwards

Remarks:

(*a*) Belet Uen town is three miles off route and is connected by a tarmacadam, Type 2, surfaced road

(*b*) At Ferfer road crosses the Ethiopian frontier and continues to Scillave and Giggiga over Ethiopia B.I.S. Route 10

ROUTE 60

FERFER–EL DERE–SINADOGO (87 miles)

Maps used: Sheets NB 38/5 and NB 38/6

Surface and construction: Improved natural sand, rock and murram, Type 5

Condition: Poor (March 1960)

Width: Not known; probably single carriageway

Gradients and curves: Between miles 20 and 22 a steep rugged climb to top of escarpment with sharp bend at top

Capacity (see Preface): Insufficient information to classify

Seasonal restrictions: Subject to hindrance during rainy seasons and liable to closure from April to July and during November and December. First ten miles subject to erosion during rains

Terrain: For 10 miles route follows the alignment of the Ferfer River Valley fording numerous steep banked watercourses, thereafter ascending gradually across sandy and rocky lightly covered bush terrain to mile 20. Then follows a two-mile steep climb until summit of escarpment is reached at mile 22. From there terrain becomes increasingly rocky as it reaches limestone formation at El Dere

Bridges and ferries: None

Other engineering features: None

Route limitations: Not known

Current and future developments: Maintenance reported as poor in June 1959

Remarks: None

ROUTE 61

BULO BURTI–GIGLEI–BELET UEN (70 miles)

Maps used: Sheets NA 38/2 and NB 38/5

Surface and construction: Unimproved natural surface Type 6

Condition: Poor. Rough, potholed and weathered in places (February 1950)

Width: 10 to 18 ft

Gradients and curves: Negligible

Capacity (see Preface): 45 v.e.w.p.d., but see " Route Limitations " paragraph below

Seasonal restrictions: Motorable only in dry seasons. Very dusty in dry weather

Terrain: Rolling country, with medium bush that has overgrown track in some places, gradually forming into dry river bed approaching Belet Uen. Native cultivation at Giglei has incorporated track onto agricultural land

Bridges and ferries: None

Other engineering features: None

Route limitations: Reported motorable by 1-ton trucks in dry weather only

Current and future developments: No information

Remarks: None

ROUTE 64

MAHADDEI UEN–ITALA (64 miles)

Maps used: Sheets NA 38/2 and NA 38/3

Surface and construction: Unimproved natural surface, Type 6. No shoulders or drainage ditches

Condition: Poor (February 1950)

Width: 12 ft

Gradients and curves: Negligible

Capacity (see Preface): 55 v.e.w.p.d.

Seasonal restrictions: Motorable in dry seasons only. At mile 20 route follows close to left bank of River Uebi Scebeli for some distance, which is liable to flood in rainy seasons and close route. In dry seasons route is very dusty

Terrain: For the first 30 miles through medium close scrub and gradually flattens out with patches of rock outcrops as the coastal belt is reached. Movement off the road is possible, though the bush may be too thick in places

Bridges and ferries: For detailed description of one major bridge at Mahaddei Uen see Appendix B (Serial 64/1). No information on minor bridges

Other engineering features: None

Route limitations: Limited to 20 tons by bridge at Mahaddei Uen

Current and future developments: No information

Remarks: From Mahaddei Uen an unmaintained natural earth road runs north-west to El Dubbo

ROUTE 65

MOGADISCIO (MOGADISHU)–ITALA–EL DERE–MEREGH–HARARDERA (ADIM) (267 miles)

Maps used: Sheets NA 38/2 and NA 38/3

Surface and construction: Unimproved natural sand, Type 6. No shoulders or drainage ditches

Condition: Fair. Hard but rutted to Itala and surface at best after rains as sand is very soft in dry seasons (March 1955)

Width: 10 ft to Meregh; thereafter no information

Gradients and curves: Negligible

Capacity (see Preface): 85 v.e.w.p.d. to Meregh; thereafter insufficient information to assess

Seasonal restrictions: To Itala very little hindrance from rain and generally motorable in all seasons. Itala to Meregh motorable only in dry seasons

Terrain: To Itala road runs amongst sand dunes in the arid coastal belt. From Itala to Meregh road runs some miles inland across sandy terrain covered with low thin bush. Movement off the road is generally possible throughout

Bridges and ferries: None

Other engineering features: None

Route limitations: Not known

Current and future developments: No information

Remarks: From Meregh a track runs parallel to the coast over a grass plain to Harardera; it is motorable for four-wheel-drive vehicles

ROUTE 7

MAHADDEI UEN–GAL TARDO–BUD BUD–DIRRI–HARARDERA (ADIM)–OBBIA–DABARO–EL HAMURRE–EIL (555 miles)

Maps used: Sheets NA 38/2, NA 38/3, NB 38/6, NB 39/4 and NB 39/1

Surface and construction: Unimproved natural surface with stretches of cobbles and stone, Type 6

Condition: Poor and in a dangerous condition (June 1959)

Width: 12 to 15 ft, widening over some stretches to between 40 and 50 ft

Gradients and curves: Negligible

Capacity (see Preface): 55 v.e.w.p.d. but see " Route Limitations " paragraph below

Seasonal restrictions: Generally motorable only in dry weather, though sections with sand surface are reported as being improved during rainy season

Terrain: To Omar Combon across rugged sand country covered with bush. Between Omar Combon and El Lehele alignment follows a ridge of loose sand about 1½ miles in depth, running along the bottom of a ridge; thence to Dirri across boulders and cobbles with patches of sand through bush country. No information between Dirri and Harardera. Leaving Harardera alignment of the coast is followed to Obbia across undulating sand desert with scattered scrub over last 15 miles. Between Obbia and El Hamurre nothing known. El Hamurre to Eil terrain consists of large rocky outcrops and stretches of deep sand

Bridges and ferries: None

Other engineering features: None

Route limitations: Section Omar Combon to El Lehele reported in 1950 as motorable only by light four-wheel drive vehicles

Current and future developments: Reported in June 1959 as receiving no maintenance

Remarks: None

ROUTE 75

ROCCA LITTORIO (GALLACAIO)–OBBIA (148 miles)

Maps used: Sheets NB 38/3 and NB 39/4

Surface and construction: Unimproved natural surface, Type 6. No shoulders or drainage ditches

Condition: Poor (June 1959)

Width: 15 ft

Gradients and curves: A steep descent down escarpment from plateau to Obbia plain, 17 miles from Obbia

Capacity (see Preface): 40 v.e.w.p.d.

Seasonal restrictions: Motorable in dry weather only. One or two swampy patches are impassable in rainy season

Terrain: Road runs across a plain covered with medium scrub to within 20 miles of Obbia where there is a steep descent down a river bed, thence across open plain to Obbia. Movement off road possible except for occasional swampy or loose sand patches

Bridges and ferries: None

Other engineering features: None

Route limitations: Not known

Current and future developments: No maintenance being undertaken June 1959

Remarks: None

ROUTE 8

BULO BURTI–IESOMMA–EL BUR–DUSA MAREB–GHELINSOR–ROCCA LITTORIO (GALLACAIO)–GAROE–GARDO–BENDER CASSIM (BOSASO) (725 miles)

Maps used: Sheets NA 38/2, NB 38/5, NB 38/6, NB 38/3, NC 39/1 and NC 39/4

Surface and construction: Improved natural surface, Type 5. No shoulders or drainage ditches

Condition: Poor (May 1960). Sections very rough, with rocky outcrops in places protruding through surface. Rocco Littorio to Garoe deeply rutted with centre ridge of soft sand and loose rock

Width: 12 to 20 ft

Gradients and curves: Short steep gradients on ascent to Iesomma escarpment. Steep gradients 30 miles north of Baduen and north of Gardo at miles 639 and 645 where there are long steep ascents and descents. Nearing Garoe road winds and curves. Otherwise route generally undulating and hilly with no severe gradients or curves

Capacity (see Preface): 120 v.e.w.p.d.

Seasonal restrictions: Generally motorable only in dry weather. Numerous tugs are crossed by fording and some sections flooded during rainy seasons. North of Baduen route crosses some 30 miles of low-lying country which is boggy during rains. Rocca Littorio to Garoe extremely dusty in dry season

Terrain: To Rocca Littorio, except for a 30-mile stretch of deep sand on leaving Dusa Mareb, route crosses arid terrain covered with medium scrub, intersected by numerous watercourses. 52 miles north of Ghelinsor a steep ravine, passable except under flood. Leaving Rocca Littorio open rocky country is traversed becoming hilly covered with thick bush approaching Garoe. Finally to Bender Cassim generally hilly, with occasional plain crossed by several bad tugs

Bridges and ferries: None

Other engineering features: Numerous watercourses are forded, some between Rocca Littorio and Garoe having steeply ramped gradients

Route limitations: Suitable for class 18 (military) transport in dry weather; otherwise unsuitable for cars and generally impassable to all except four-wheel drive vehicles and heavy lorries

Current and future developments: In June 1959, poor maintenance reported

Remarks: From Beira a 12-ft sand road in fair condition leads north-west to Gheron (*c.* 21 miles) on the Ethiopian frontier and continues to Galadi

ROUTE 82

SINUGIF–EIL (93 miles)

Maps used: Sheets NC 39/4 and NB 39/1

Surface and construction: Unimproved natural sand and rock, Type 6

Condition: Fair to poor (June 1959)

Width: No information

Gradients and curves: Steep descent from plateau down dangerous escarpment to Eil

Capacity (see Preface): Insufficient information to classify

Seasonal restrictions: Motorable in dry weather only

Terrain: To mile 18 good going is possible across clay and sand, thence a very rough ascent through the Lugdero Hills until the top of the plateau is reached at mile 23. Thereafter road is good until Eil is approached by descending a steep and dangerous escarpment

Bridges and ferries: None

Other engineering features: None

Route limitations: Not known

Current and future developments: No information

Remarks: None

ROUTE 84

GARDO–DUDO–BENDER BEILA (136 miles)

Maps used: Sheets NC 39/4 and NC 39/5

Surface and construction: Unimproved natural surface, Type 6

Condition: Fair to poor (June 1959)

Width: 14 to 16 ft

Gradients and curves: A steep descent at mile 134 to Bender Beila

Capacity (see Preface): 55 v.e.w.p.d.

Seasonal restrictions: Motorable only during dry weather

Terrain: For first ten miles track passes through a valley in grazing country. At Dudo a difficult tug crossing exists, Little is known until mile 134, where the road descends a difficult escarpment and thence across a soft sandy stretch to Bender Beila

Bridges and ferries: None

Other engineering features: None

Route limitations: Not known

Current and future developments: In June 1959 negligible maintenance was being carried out

Remarks: From east of Dudo a motorable road runs north to Scusciuban

ROUTE 86

LAZ DAUA–MELEDIN–SCUSCIUBAN–HORDIO (202 miles)

Maps used: Sheets NC 39/1 and NC 39/2

Surface and construction: Improved natural sand, Type 5. No shoulders or drainage ditches

Condition: Fair to poor (June 1959). Surface soft in places, and difficult for all but four-wheel drive vehicles

Width: No information. A well-defined but narrow road

Gradients and curves: Steep gradients and hairpin bends on ascents to escarpments at miles 123 and 154, east of Scusciuban

Capacity (see Preface): 100 v.e.w.p.d., assuming carriageway minimum 11 ft wide

Seasonal restrictions: Motorable only in dry weather

Terrain: To Scusciuban sandy desert with two bad tug crossings. For 40 miles after Scusciuban flat plain to foot of first escarpment, thence through 10 miles of hilly country followed by another 20 miles of flat plain reaching and crossing second escarpment, overlooking Hordio plain between miles 154 and 180. After descending escarpment, road passes through sandhills and then on to flat boggy salt plains into Hordio

Bridges and ferries: None

Other engineering features: None

Route limitations: Only suitable for four-wheel drive vehicles

Current and future developments: Poor maintenance reported in June 1959

Remarks: At mile 180, a dry season motorable road branches north to Bargal crossing barren and sandy terrain intersected by many tugs and ravines

ROUTE 87

CARIN–TISGIEH–MELEDIN (68 miles)

Map used: Sheet NC 39/1

Surface and construction: Carin to Tisgieh hard surfaced, thereafter improved natural earth and stone, Type 5

Condition: Poor (June 1959)

Width: No information

Gradients and curves: Several steep gradients between Carin and Tisgieh

Capacity (see Preface): Insufficient information to classify

Seasonal restrictions: Motorable in dry weather only. Washouts occur during rainy seasons for 19 miles beyond Tisgieh

Terrain: Between Carin and Tisgieh road crosses hilly country traversed by many tugs. Leaving Tisgieh the first 19 miles are across a badly water-scarred stretch subject to flooding during rains. Thereafter to Meledin a sandy open plain with road running on several alignments

Bridges and ferries: None

Other engineering features: None

Route limitations: Not known

Current and future developments: No information

Remarks: None

ROUTE 88

SCUSCIUBAN–EL GAL–CANDALA (130 miles)

Maps used: Sheets NC 39/2 and NC 39/1

Surface and construction: Improved natural surface, Type 5. No shoulders or drainage ditches

Condition: Fair to poor; last 40 miles very rough (August 1944)

Width: 12 ft

Gradients and curves: Between El Gal and Candala mountainous country with steep and difficult escarpments at mile 120 and Botiala and six very bad hairpin bends

Capacity (see Preface): 120 v.e.w.p.d.

Seasonal restrictions: Motorable only in dry weather

Terrain: For the first 25 miles road crosses plains, then strikes a range of hills after which it again runs across plain until mile 54 when country becomes hilly with thick bush. At mile 74 there is a drop from the hills and for 15 miles a flat bush-covered plain is crossed. At mile 90 hills are again encountered becoming mountainous approaching Candala

Bridges and ferries: None

Other engineering features: No information

Route limitations: Lorries have difficulty in negotiating hairpin bends

Current and future developments: No maintenance reported being carried out in June 1959

Remarks: None

ROUTE 89

TOHEN–ALULA–DURBO–EL GAL (97 miles)

Map used: Sheet NC 39/2

Surface and construction: Unimproved natural sand and stone, Type 6. No shoulders or drainage ditches

Condition: Very poor (June 1959)

Width: 9 ft

Gradients and curves: Difficult ascent from escarpment at mile 24

Capacity (see Preface): 40 v.e.w.p.d.

Seasonal restrictions: Motorable only in dry weather. In rainy seasons washouts occur at tug crossings

Terrain: To Alula road crosses many tugs and runs down the Bereda escarpment through hilly to undulating scrub-covered country. From Alula to El Gal terrain is similar though flatter and crossing fewer tugs. Movement off the road is possible in flat coastal plain areas

Bridges and ferries: None

Other engineering features: No information

Route limitations: Not known

Current and future developments: None

Remarks: None

ROUTE 9

BERBERA–DARBURRUK–BEDERWANAK–HARGEISA–Ethiopian frontier at JDE 895869 (158 miles)

Maps used: Sheets NC 38/2 and NC 38/5

Surface and construction: First 18 miles improved natural sand, Type 5; thence gravel, Type 4, except for an improved natural sand stretch between miles 72 and 80. Tarmacadam, Type 2, surface through Hargeisa. No shoulders throughout

Condition: Fair. Rough in places (April 1962)

Width: 14 ft to miles 86, north of Bederwanak; thereafter 20 ft

Gradients and curves: Negligible

Capacity (see Preface): To Bederwanak 200 v.e.w.p.d.; 360 v.e.w.p.d. to Hargeisa; Hargeisa to Ethiopian frontier 450 v.e.w.p.d.

Seasonal restrictions: Route is generally motorable at all seasons and seldom blocked for more than a few hours at a time in rains. Tugs are normally dry river beds forming obstacles during wet seasons. In dry seasons route is extremely dusty

Terrain: First 18 miles across a flat sandy coastal plain covered by low scrub, incised by 15 tug beds. Thereafter to Hargeisa, hilly to undulating, broken low-scrub country, interspersed with a 20-mile gravel plain covered with scrub, between hills broken by tug beds. At mile 82, route goes through the Dabdera Karim Pass, at JDM 155615, a defile one mile wide and $\frac{1}{2}$ mile long. From Hargeisa to frontier flat grass and scrub plain with thick thorn bush up to 10 ft high

Bridges and ferries: Three minor bridges on section Berbera to Hargeisa, with dry weather diversions, and one 20 ft long south of Hargeisa. No major bridges

Other engineering features: Several concrete and masonry culverts. Road is embanked at watercourses which are fordable at all times except during spates

Route limitations:

(*a*) Class 12 (military) to Hargeisa thence class 24 (military) to frontier. If dry weather diversions to minor bridges are used, route motorable to class 70 (military)

(*b*) Minor bridges reported as being used by loaded 10-ton trucks

Current and future developments: None

Remarks: After crossing the frontier route continues to Awareh and across Ethiopia to re-enter Somalia at Ferfer on Route 6

ROUTE 90

BERBERA–UPPER SHEIKH–BURAO–EIK–BURAO KIBIR–DURUKSI (170 miles)

Maps used: Sheets NC 38/2 and NC 38/5

Surface and construction: First 77 miles murram and gravel, Type 4; thereafter to Duruksi improved natural sand, Type 5

Condition: Fair to poor (April 1959)

Width: 12 ft, with stretches between miles 38 to 47 and 77 to 91, 24 ft wide

Gradients and curves: Sheikh Pass, between miles 38 and 47, is in a defile rising from 2,000 to 4,700 ft, very steep and twisting with maximum gradient 1 in 8 (12·5 per cent) and curves of 140 degrees. Road through the pass is one-way only, surfaced with coarse basalt sand and provides good going even when wet

Capacity (see Preface): To Burao 120 v.e.w.p.d.; thereafter to Duruksi 200 v.e.w.p.d.

Seasonal restrictions: To Burao, route liable to be closed by heavy rain. Landslides are apt to occur in the Sheikh Pass between April and June and August to October. Tug beds become obstacles during wet weather. Burao to Duruksi is motorable only in dry weather

Terrain: First 15 miles across a flat sandy coastal plain and includes a 3-mile defile 50 yards wide. The next 62 miles, broken hilly terrain transversed by tugs, includes the mountainous section through the Sheikh Pass (KDN 4803). This section is boulder-strewn with precipitous slopes and cross-country movement is impossible throughout. The last 14 miles before Burao is across a plain covered with scattered thorn. Burao to Duruksi, flat sandy plain covered with grass and thorn. Movement off the road possible and generally good only in plain areas

Bridges and ferries: None

Other engineering features: Several culverts and all-weather fords in Burao and across Dubur Tug at KDG 549911. In Sheikh Pass retaining walls are built out from the hillside and are composed of dry masonry with gravel bound with mortar

Route limitations:

(*a*) Class 9 to Burao, thereafter class 24 (military)

(*b*) Sheikh Pass cannot take vehicles larger than loaded 3-ton trucks (military)

Current and future developments: In March 1959 approval was given for widening of the Sheikh Pass. No further details known

Remarks:

(*a*) From Duruksi a motorable sandy road crosses the Ethiopian frontier and continues to Scillave

(*b*) From Burao a clearly defined one-way natural sandy surface, dry weather road runs via Elal to Las Dureh on Route 903

(*c*) There is an alternative route between Burao and Duruksi which leaves the main route 1½ miles south of Burao and rejoins it at Burao Kibir. Surface is hard packed sandy soil with a minimum width of 10 ft

ROUTE 91

Junction Route 9 at JDM 157615–BURAO–AINABO–LAS ANOD–BIHEN–GAROE (351 miles)

Section A

Junction Route 9 at JDM 157615–ADADLE–BURAO (92 miles)

Map used: Sheet NC 38/5

Surface and construction: Gravel, Type 4, with improved natural hard sand, Type 5, section between miles 21 and 34

Condition: Fair (September 1961). Though slightly corrugated in patches going is fairly good

Width: Varies between 14 and 20 ft, with 12-ft section between miles 21 and 34

Gradients and curves: Negligible

Capacity (see Preface): 200 v.e.w.p.d.

Seasonal restrictions: Motorable in dry weather only. Tug beds between miles 34 and 47 fill with water and form obstacles to traffic in wet weather. During dry seasons dust, particularly in area of Burao, becomes a hazard and sand drifts occur in places

Terrain: Generally flat to undulating plain covered with grass, sand, scrub and thorn, dense in places, except for hilly broken country east of Adadle between miles 34 and 42 where route passes through two defiles; one is ½ mile long and 20 ft wide and the other 3 miles long and 500 yards wide. Movement off the road and cross-country going generally possible except in hill section

Bridges and ferries: None

Other engineering features: Two culverts over tug beds at JDM 612876 and JDM 625870

Route limitations: Suitable for class 24 (military) traffic

Current and future developments: No information

Remarks: None

Section B

BURAO–BER–AINABO–LAS ANOD (165 miles)

Maps used: Sheets NC 38/5 and NC 38/6

Surface and construction: Gravel, Type 4, except for improved natural surface, Type 5, section between miles 41 and 90. No shoulders

Condition: Fair (February 1961). Good hard going in places

Width: 12 ft

Gradients and curves: Negligible

Capacity (see Preface): 225 v.e.w.p.d.

Seasonal restrictions: Subject to hindrance during light rains; impassable during heavy rains when washouts are liable to occur on Burao to Ber section. In dry weather sand drifts are a hazard particularly at Ber

Terrain: Generally a flat sandy and gravel plain covered with grass, low scrub and thorn, fairly dense in places. Between miles 90 and 116 terrain becomes more undulating with low hills on both sides, and five tugs. Road runs in defiles through steep-sided hills 200 yards long and 80 yards wide at KDC 835390 and 200 yards long and 50 yards wide entering Las Anod. Movement off the road and cross-country going generally possible

Bridges and ferries: None

Other engineering features: Concrete Irish bridges over Tug Der at Ber and large Yaguri Tug at KDC 4169

Route limitations: Suitable for vehicles with four-wheel drive

Current and future developments: In December 1960 approval given to construct a new road between Burao and Las Anod. By February 1961 construction in hand between Burao and Ber

Remarks: None

Section C

LAS ANOD–BIHEN–GAROE (94 miles)

Maps used: Sheets NC 38/6 and NC 39/4

Surface and construction: Unimproved natural gypsum and sand, Type 6

Condition: Poor (July 1960). Road very stony and rough and deeply rutted in places

Width: 12 ft

Gradients and curves: Some sharp gradients and curves in the hill section to Beratable

Capacity (see Preface): 50 v.e.w.p.d.

Seasonal restrictions: Subject to hindrance during wet seasons when sections are liable to washouts in heavy rain. Gypsum sections very dusty in dry season

Terrain: To Beratable, road runs roughly parallel to the Bir Hisso escarpment, crossing several large sandy river beds, winding through edge of hilly, rugged and rocky country and partly through ravines. From Beratable to Bihen a hot dusty plain is crossed. No information beyond Bihen

Bridges and ferries: None

Other engineering features: No information

Route limitations: Motorable by four-wheel drive vehicles

Current and future developments: None

Remarks: From Las Anod an alternative motorable 11 ft natural surface road, crossing flat scrub country intersected by numerous tugs, runs for 79 miles to Bihen

ROUTE 92

KIRIT–BOHOTLEH WEIN (56 miles)

Map used: Sheet NC 38/6

Surface and construction: Improved natural sand, Type 5, with gravel stretches

Condition: Fair (April 1959)

Width: 12 to 15 ft

Gradients and curves: Negligible

Capacity (see Preface): 200 v.e.w.p.d.

Seasonal restrictions: Motorable in dry seasons only

Terrain: First 30 miles crosses a flat gravel and sandy plain covered with thin scrub and dense bush. At mile 31 the El Marale hills are crossed, then for five miles the road is in the course of a soft sand tug bed. Finally stony surface over ranges of low hills. Movement off the road is generally possible though going is poor

Bridges and ferries: None

Other engineering features: None

Route limitations: Route probably only motorable by four-wheel drive vehicles

Current and future developments: None

Remarks: From Bohotleh Wein a motorable road 13 ft wide crosses the Ethiopian frontier and continues to Curmis (*c.* 25 miles) and Galadi

ROUTE 93

AINABO–QARADAG–EL AFWEIN–ERIGAVO–MAIT (212 miles)

Maps used: Sheets NC 38/6 and NC 38/3

Surface and construction: Gravel, Type 4, except for 30-mile stretch of improved natural sand, Type 5, across Ban Ade Plain south of Qaradag

Condition: Fair, though surface in places rough and badly rutted (February 1961)

Width: 12 ft; 15 to 24 ft through Tabah Pass

Gradients and curves: Tabah Pass maximum 1 in 6 (17 per cent) with 26 hairpin bends, the most acute being 170°. Sharp gradients south of Qaradag in Kullarle hills

Capacity (see Preface): 150 v.e.w.p.d.

Seasonal restrictions: Throughout subject to hindrance from rain during April to June and August to October. In the Tabah Pass landslides are apt to occur and portions of retaining walls subside

Terrain: Road for 57 miles undulates round end of Bur Dab Range and crosses open flat sandy scrub of Ban Ade Plain. From Qaradag all the way to Erigavo road climbs steadily up valley of tug and through foothills of the Kullarle range interspersed with open gravel and sandy plains. Between Erigavo and Mait mountainous rugged boulder-strewn country, traversed by numerous tug beds. The tortuous ascent and descent of the Tabah Pass for 17½ miles involves rises from 1,300 to 6,950 ft. Movement off the road impossible in mountain and hill country

Bridges, tunnels and ferries: For details of tunnel in Tabah Pass see Appendix B (Serial 93/1). No bridges

Other engineering features: Several concrete culverts. Numerous tugs crossed by Irish bridges

Route limitations:

(*a*) Route reported motorable by three-ton four-wheel drive trucks

(*b*) The Tabah Pass is a bottleneck—one way only; the pass is closed at alternate ends every four hours

Current and future developments: No information

Remarks: None

ROUTE 94

BEDERWANAK–ODWEINA–GHOR ODWEINA (65 miles)

Map used: Sheet NC 38/5

Surface and construction: Unimproved natural sand, Type 6

Condition: Fair (April 1959)

Width: 12 ft

Gradients and curves: Negligible

Capacity (see Preface): 100 v.e.w.p.d.

Seasonal restrictions: Motorable in dry weather only. Dust is a hazard

Terrain: Sandy plain covered with some thorn and grass. Movement off the road possible but generally poor for wheeled vehicles

Bridges and ferries: None

Other engineering features: Several tugs crossed by Irish bridges

Route limitations: Not known

Current and future developments: None

Remarks: None

ROUTE 95

TUG WAJALE Post–DURUKSI–BOHOTLEH WEIN–DARKEIN GENYO–BIHEN–HALIN (450 miles)

Maps used: Sheets NC 38/4, NC 38/5 and NC 38/6

Surface and construction: Improved natural sand and gravel, Type 5, with drainage ditches in places

Condition: To Darkein Genyo good for most of its length; thereafter very rough, though motorable (February 1961)

Width: Originally improved as a two-way road, 30 ft wide, to Darkein Genyo but erosion has converted into single-lane throughout with passing places

Gradients and curves: Negligible

Capacity (see Preface): 155 v.e.w.p.d. assuming 8 to 11 ft in width

Seasonal restrictions: Motorable in dry weather, but tugs present difficulties to all types of vehicles during wet weather. For long sections level of road falls below surrounding countryside and during the rains road becomes a minor tug

Terrain: Large sandy plain with areas in places covered by long grass and bush, fairly dense in places. Between Bihen and Halin a hard sandy plain covered with low scrub, traversed by several tug beds, none of which constitutes an obstacle. Movement off the road fair to good, except for some tug beds and areas of dense bush

Bridges and ferries: None

Other engineering features: None

Route limitations: Motorable by 3-ton trucks

Current and future developments: Reported in April 1961 no maintenance being undertaken

Remarks: Route for a considerable distance forms boundary with Ethiopia

ROUTE 96

HARGEISA–BORAMA–BAWN–ABDELCADER (ABDUL GHADIR)–SILLIL–ZEILA–LOUADA (254 miles)

Maps used: Sheets NC 38/4 and NC 38/1

Surface and construction: Loose gravel, Type 4, to Sillil; thereafter improved natural sand, Type 5

Condition: To Bawn fair to good; thereafter deteriorating to very poor and deeply rutted in places (February 1961)

Width: To Borama 20 to 30 ft; thereafter 10 ft

Gradients and curves: No severe gradients. Several hairpin bends near mile 109, north-west of Borama

Capacity (see Preface): To Borama 405 v.e.w.p.d.; Borama to Sillil 180 v.e.w.p.d.; Sillil to Zeila 135 v.e.w.p.d.; Zeila to Louada 155 v.e.w.p.d.

Seasonal restrictions: Motorable in dry weather. Tug beds are obstacles in wet seasons

Terrain: To Zeila across flat to hilly terrain covered with thorn bush and scrub, fairly dense in places, traversed by numerous steep-sided and deep tug beds and through nine defiles. From Zeila coastal plain with sand flats, salt marsh and large tug beds. Movement off the road generally possible except in hilly country, defiles and tug beds

Bridges and ferries: No major bridges. One 33 ft masonry bridge leaving Hargeisa

Other engineering features: Immediately leaving Zeila, route crosses a stone causeway one mile long and 12 ft wide, with only two passing places, and one stretch of 50 yards under water at high tide. Seven tugs crossed by Irish bridges 30 to 150 ft long

Route limitations: Motorable by three-ton four-wheel drive trucks

Current and future developments: In February 1961 reported that no maintenance being carried out between Bawn and Louada

Remarks: From Louada route crosses frontier with French Somaliland and continues to Jibuti over a good 24-ft gravel and tarmacadam surface

ROUTE 97

KALABID–TUG WAJALE Post (13 miles)

Map used: Sheet NC 38/4

Surface and construction: Gravel, Type 4

Condition: Good (1960)

Width: 20 ft

Gradients and curves: Negligible

Capacity (see Preface): 540 v.e.w.p.d.

Seasonal restrictions: Subject to slight hindrance in rainy seasons

Terrain: First 2 miles sandy plain with scrub; final 11 miles grassy plain with some cultivation. Good going off the road for both wheeled and tracked vehicles

Bridges and ferries: None

Other engineering features: None

Route limitations: Not known

Current and future developments: No information

Remarks: From Tug Wajale Post road crosses the Ethiopian frontier and continues as a motorable route to Giggiga and Harar (see Ethiopian B.I.S. Route 9)

ROUTE 98

ABDELCADER (ABDUL GHADIR)–Ethiopian Frontier at BEIO ANOT (BEYU ANOD) (18 miles)

Map used: Sheet NC 38/1

Surface and construction: Unimproved natural sand, gravel and stone, Type 6

Condition: Poor (April 1959)

Width: No information

Gradients and curves: Negligible

Capacity (see Preface): Insufficient information to classify

Seasonal restrictions: Motorable in dry weather only

Terrain: A sandy plain and numerous tug beds. Road runs for $1\frac{1}{2}$ miles in a defile at JDS 2975 50 yards wide with escarpment 150 ft high to north. In the tug beds movement off the road is very poor

Bridges and ferries: None

Other engineering features: None

Route limitations: Suitable only for $\frac{1}{4}$-ton four-wheel drive trucks. Not negotiable by three-ton vehicles without considerable work on tug beds

Current and future developments: None

Remarks: Route continues across the Ethiopian frontier to Dire Daua

ROUTE 99

SILLIL–GARISA–BAWN (83 miles)

Map used: Sheet NC 38/1

Surface and construction: Improved natural sand, Type 5, with rock and gravel sections

Condition: Fair to good, with poor six-mile section in Dobo Pass at JDS 870336 (April 1959)

Width: 12 ft

Gradients and curves: Between miles 60 and 66 mountainous country through Dobo Pass with numerous hairpin bends and very steep gradients, maximum 1 in 4 (25 per cent)

Capacity (see Preface): 120 v.e.w.p.d. though see paragraph " Route Limitations " below

Seasonal restrictions: Motorable in dry weather only

Terrain: The first 29 miles across a sandy plain; then for 11 miles rising through foothills across hard sand. The next 20 miles is along a tug bed and through hard sand, covered with low scrub, followed by mountainous country. For six miles numerous defiles, hairpin bends and steep gradients. The last 16 miles across an undulating sandy plain. Movement off the road is fair to good except in Dobo Pass

Bridges and ferries: None

Other engineering features: None

Route limitations: Motorable only by vehicles up to three-ton with four-wheel drive in northerly direction due to Dobo Pass ascent

Current and future developments: No information

Remarks: None

ROUTE 901

BERBERA–BULHAR–GABOD–ZEILA (*c.* 150 miles)

Maps used: Sheets NC 38/2 and NC 38/1

Surface and construction: Unimproved natural surface, Type 6

Condition: Fair; a well marked motorable route, rough in places (April 1961)

Width: Undefined; in places a series of parallel tracks

Gradients and curves: Negligible

Capacity (see Preface): Insufficient information to classify

Seasonal restrictions: Motorable in dry weather only. Section Luk Haiyah to Gabod (inland track) becomes impassable due to flooding during wet seasons

Terrain: To Luk Haiyah the road parallels the coast about one mile inland, crossing mud flats and sand-hills. From Luk Haiyah route splits into two parallel roads; the coastal one used by livestock and few vehicles; the inland one, across a salt marsh, being used by vehicles in dry weather. North-west of Gabod the two merge and the road continues across a sandy plain to Zeila

Bridges and ferries: None

Other engineering features: None

Route limitations: Route motorable by four-wheel drive three-ton trucks

Current and future developments: In April 1961 some maintenance reported between Berbera and Bulhar

Remarks: None

ROUTE 902

BERBERA–KARIN–RAGUDA–MAIT–LAS KHOREH–BENDER ZIADA–BENDER CASSIM (BOSASO) (368 miles)

Maps used: Sheets NC 38/2, NC 38/3 and NC 39/1

Surface and construction: Unimproved natural sand and gravel, Type 6, to Raguda; thereafter gravel, Type 4

Condition: Poor, except for section between Raguda and Bender Ziada which varies from fair to good (April 1959)

Width: Generally one-way

Gradients and curves: Some sharp gradients and curves through coastal hills west of Mait and between Durdureh and Bender Ziada

Capacity (see Preface): To Raguda 55 v.e.w.p.d.; remainder 275 v.e.w.p.d., assuming minimum 12 ft carriageway

Seasonal restrictions: Generally motorable in dry seasons only, though section Raguda to Bender Ziada reported in 1959 as motorable in all weather

Terrain: Route follows a coastal plain varying from 0 to 14 miles in depth; bounded on the south by an escarpment, up to 7,000 ft high. Leaving Raguda large mountains sweep down towards the sea and at Heis the road leads inland to Mait through hills by a pass and two defiles varying from $\frac{1}{2}$ mile to $2\frac{1}{2}$ miles in length and 12 to 20 ft in width. From Mait to Bender Cassim a barren sandy and gravel coastal plain, rocky in places

Bridges and ferries: None
Other engineering features: None
Route limitations: Route motorable by four-wheel drive three-ton trucks
Current and future developments:

(*a*) In October 1958, proposal to start construction of a road along the whole of the Makhir coast from Mait to Bender Ziada was announced. No details known

(*b*) In March 1961, construction of a road between Las Khoreh and Haberru on Route 933 announced. No details or progress reported

Remarks: Over large areas the shingle and sandy beach is motorable at low water

ROUTE 903

BERBERA–LAS DUREH–EL AFWEIN (160 miles)

Maps used: Sheets NC 38/2, NC 38/3 and NC 38/6
Surface and construction: Unimproved natural sand, Type 6, with stony gravel sections
Condition: Fair (April 1959)
Width: 11 ft
Gradients and curves: Negligible
Capacity (see Preface): 75 v.e.w.p.d.
Seasonal restrictions: Motorable in dry weather only. Numerous tugs liable to flood during rainy season and become impassable
Terrain: Leaving Berbera an undulating sandy coastal plain covered with scattered scrub and then climbing a valley through the rocky and broken escarpment which has no passes, defiles or even moderately steep gradients. Dispersal possible throughout. No cover from the air
Bridges and ferries: None
Other engineering features: None
Route limitations: Not known
Current and future developments: No information
Remarks: Route regularly used by trade trucks and government vehicles

ROUTE 911

Junction Route 91 at KDH 304106–WARIDAD–Junction Route 93 at KDJ 2236 (70 miles)

Map used: Sheet NC 38/6
Surface and construction: Unimproved natural sand and gypsum Type 6
Condition: Poor, becoming deeply rutted in places during rainy seasons (December 1957)
Width: Undefined. Numerous parallel tracks
Gradients and curves: Negligible
Capacity (see Preface): 70 v.e.w.p.d.
Seasonal restrictions: Motorable in dry weather only. The Sarar and Sawlwein plains are deceptively soft during rain
Terrain: Route ascends bumpy and stony country on to the Sarar and Sawlwein plains and for 60 miles crosses flat bush traversed by numerous tributaries of the large Tug Der. The last few miles ascend through a defile
Bridges and ferries: None
Other engineering features: None
Route limitations: Not known
Current and future developments: None
Remarks: None

ROUTE 921

BOHOTLEH WEIN–WUDWUD–LAS ANOD–HAGRAJIN (154 miles)

Map used: Sheet NC 38/6
Surface and construction: To Las Anod improved natural surface, Type 5. Remainder unimproved natural surface, Type 6
Condition: To Las Anod fair though corrugated in places; thereafter poor (February 1961)
Width: 12 ft with two-way sections and, in places beyond Las Anod, parallel tracks
Gradients and curves: South of Las Anod, between miles 86 and 90, slight gradients on ascent and descent of Galkhudal escarpment
Capacity (see Preface): To Las Anod 200 v.e.w.p.d.; remainder 60 v.e.w.p.d.
Seasonal restrictions: To Las Anod road usually passable in wet weather. Remainder of route subject to hindrance where it crosses nullahs, whilst soft gypsum surface on low-lying section becomes boggy during wet seasons

Terrain: To 14 miles south of Las Anod open scrub country. At mile 85 a gentle ascent and descent of the Galkhudal hills across rugged rough country covered with sparse scrub as far as Las Anod. Next 15 miles very stony country with thick bush, then 35 miles of flat sandy plain covered with low grass and scrub traversed by several large nullahs, all of which constitute obstacles in wet weather. Movement off the road is generally good throughout

Bridges and ferries: None

Other engineering features: None

Route limitations: Route motorable by four-wheel drive three-ton trucks

Current and future developments: No information

Remarks: None

ROUTE 930

DERO ERI–HUDIN–HALIN–LAS WQRWAR (175 miles)

Maps used: Sheets NC 38/6 and NC 39/4

Surface and construction: Unimproved natural sand and gypsum, Type 6, with gravel sections

Condition: Fair to poor, with rough sections (April 1959)

Width: 12 ft with numerous alignments on section Hudin to Halin

Gradients and curves: Sharp gradients in hill sections, maximum 1 in 16 (7 per cent).

Capacity (see Preface): 50 v.e.w.p.d.

Seasonal restrictions: Subject to hindrance during wet seasons, in particular at mile 23 where the wide Tug Der is crossed

Terrain: Open plain to Senergot. A line of hills then runs on south side parallel with the road to Hudin. Cross-country movement is quite good in dry weather. Beyond Hudin, at KDJ 981056 there is a pass two miles long and 20 yards wide. Thereafter to Halin a flat stony and sandy plain traversed by three large tugs. From Halin road crosses hilly country and runs in a defile 9 miles long emerging on to a plateau; then to Las Worwar across an undulating plain broken by tug beds and hills

Bridges and ferries: None

Other engineering features: None

Route limitations: Not known

Current and future developments: None

Remarks:

(*a*) From Las Worwar a motorable road continues south-west to Garoe where it joins Route 8

(*b*) 18 miles north of Halin, at KDL 530157, a 14-ft motorable road of poorly packed natural earth runs for 26 miles across a soft sand-gravel plain to Gardo

(*c*) At KDD 4972 a motorable 12-ft firm sandy road, crossing flat scrub country, continues south to Bihen and Garoe on Route 91

ROUTE 931

HALIN–DANAN–ERIGAVO (181 miles)

Maps used: Sheets NC 38/3, NC 38/6 and NC 39/4

Surface and construction: Unimproved natural sand, gypsum and clay, Type 6, improved in places, in particular on ascent to Sol Haud plateau between miles 18 and 23

Condition: Fair to poor, with rough going on leaving Halin on hilly gypsum country and in tug beds (February 1961)

Width: 10 to 12 ft with alternative alignments frequently possible across open plains. From Halin restricted to single-lane carriage way for 23 miles through hill country

Gradients and curves: Negligible except between miles 9 and 20 where maximum gradient is 1 in 5 (20 per cent)

Capacity (see Preface): 40 v.e.w.p.d.

Seasonal restrictions: Motorable in dry seasons only. Some sections become boggy in rainy seasons

Terrain: Leaving Halin road undulates for 23 miles through hilly country, rising through and crossing three plateaus. Thereafter across an open plain, stony and rough in places, covered with sparse scrub. Movement off-road possible on either side except where road follows tug Herideri

Bridges and ferries: None

Other engineering features: None

Route limitations: Not known

Current and future developments: In January 1961 a new road was projected from Taleh to Erigavo via Harun (location not known), thereby shortening the distance from Taleh to Erigavo by 100 miles. No further details available

Remarks:

(*a*) From KDL 103580 a motorable 9-ft natural gravel road, with occasional sandy patches, runs east for 47 miles to join Route 8 seven miles south of Gardo

(*b*) From Halin a natural surface road runs north-west to Taleh

(*c*) The first few miles of this route are common with Route 930

ROUTE 932

ERIGAVO–EL HAGA–BURAN–LAZ DAUA (145 miles)

Maps used: Sheets NC 38/3 and NC 39/1

Surface and construction: Unimproved natural sand and gravel, Type 6

Condition: Poor, though motorable (June 1959)

Width: 12 to 13 ft, with several parallel alternative tracks

Gradients and curves: Negligible

Capacity (see Preface): 50 v.e.w.p.d.

Seasonal restrictions: Motorable in dry weather only

Terrain: Route to Buran traverses the Southern Plain for most of its length over flat open scrub and stony ground. Some 50 miles east of Erigavo it passes through a range of low hills. From Buran to Laz Daua route lies in rock-covered hill country. Route generally follows alignment of watercourses and crosses numerous tugs. Dispersal and movement off road possible almost everywhere except between Buran and Laz Daua

Bridges and ferries: None

Other engineering features: None

Route limitations: Not known

Current and future developments: None

Remarks:

(*a*) This is the principal communication link between Erigavo and Buran and is used mainly by Government vehicles

(*b*) From road junction at KDJ 640420 a motorable one-way road runs north to El Donfar (*c.* 33 miles) on Route 8

ROUTE 933

ERIGAVO–JIDALI–HABERRU (HABERA)–BURAN (160 miles)

Maps used: Sheets NC 38/3 and NC 39/1

Surface and construction: Unimproved natural surface, Type 6

Condition: Poor (February 1961)

Width: One-way, with several alternative tracks

Gradients and curves: Negligible

Capacity (see Preface): 40 v.e.w.p.d. assuming minimum width of 8 to 11 ft

Seasonal restrictions: Route motorable after rains by four-wheel drive vehicles only

Terrain: To El Ad road crosses a flat plain; thence through more hilly country with a number of steep-sided hills, finally ascending into Buran. East of El Ad, road runs in a defile 800 yards long and 100 yards wide through the Karindasho Pass at KDS 702920. Between Haberru and Buran the road crosses the flat and sandy Shemis Plain, traversed by several tugs which have steep banks and a lot of sand

Bridges and ferries: None

Other engineering features: None

Route limitations: None known

Current and future developments: None

Remarks: None

SCHEDULE OF MAJOR BRIDGES, TUNNELS AND FERRIES

Maps used: Map references, place and river names are taken from the 1:500,000, Series AMS Y 401 (GSGS 4355).

Bridge load classifications: Classifications are derived from the Somalia Public Works Department load classifications and WD engineer intelligence.

Notes:

1. This schedule is confined to major bridges not less than 150 ft in length, and tunnels and ferries located on routes described in the text at Appendix A.
2. Abbreviations used: NK = not known
   NA = not applicable
   RSJ = rolled steel joist
   RC = reinforced concrete

Serial No. (a)	Route (b)	Nearest town or landmark (c)	Location (d)	Length between abutments ft (e)	Width in ft (i) Overall (ii) Road (f)	Water gap ft (g)	Constructional details (h)	Load class (j)	Remarks (k)
1/1	Mogadiscio to Liboi (Route 1)	Margherita	NA 38/4 JAD 270065	269	(i) NK (ii) Single carriageway	Variable 180 to 300	Single-span steel lattice girder	100 tons	Over River Giuba, replacing Pangheni ferry
1/2	Mogadiscio to Liboi (Route 1)	Giumbo	SA 38/1 JZS 130725	NA	NA	720	*Ferry* Steel with counterpoise steel ramps Capacity: 6 × 3-ton trucks	23 tons	Over River Giuba. On alternative section Gelib to Chisimaio via Margherita
2/1	Lugh Ferrandi to Gelib (Route 2)	Bardera	NA 38/1 JAR 7558	NA	NA	NK	*Ferry* Steel pontoon with counterpoise steel ramps Capacity: 2 × 3-ton trucks	23 tons	Over River Giuba. Ferry also used by traffic using Route 3

Serial No. (a)	Route (b)	Nearest town or landmark (c)	Location (d)	Length between abutments ft (e)	Width in ft (i) Overall (ii) Road (f)	Water gap ft (g)	Constructional details (h)	Load class (j)	Remarks (k)
3/1	Wel Garis to El Goran (Route 3)	Hafanle	NA 38/1 JAR 450595	NK	(i) NK (ii) NK	NK	Tubular steel, Inglis type, with timber decking	Class 24 (military)	Over Wadi Lamma Girot
4/1	Mogadiscio to Dolo (Route 4)	Afgoi	NA 38/2 KAN 3637	177	(i) NK (ii) NK	114	Nine-span (eight large and one small) RSJ with tarmac roadway over steel channels on masonry abutments. Each pier consists of five 8 to 12-inch timber pile clusters	18 tons	Old railway bridge over River Uebi Scebeli. River fairly deep with strong current. Diversion possible downstream by old eight-span timber trestle bridge, length 230 ft, load 12 tons
4/2	Mogadiscio to Dolo (Route 4)	Iscia Baidoa	NA 38/1 JBE 2645	155	(i) NK (ii) 18	NK	Three (? five) span RSJ with RC slab decking on masonry piers and abutments	Class 70 (military)	Over dry and rocky tug. Diversion by ford 30 yds to north 3 ft footpaths each side. Masonry abutments 30 ft long each side Bridge also crossed by traffic using Route 3
4/3	Mogadiscio to Dolo (Route 4)	Lugh Ferrandi	NA 38/1 JBK 0419	NA	NA	NK	*Ferry* Steel pontoons. Capacity: Two Landrovers or 1 × 3-ton truck	6 tons	Over River Giuba; crossing time 15 minutes. Between December and March river water level low but ferry maintained by dredging. In good condition April 1959
4/4	Mogadiscio to Dolo (Route 4)	Dolo	NB 38/4 JBJ 530605	NA	NA	NK	*Ferry* Steel pontoons Capacity: Two Landrovers or 1 × 3-ton truck	6 tons	Over River Giuba. Also used by traffic using Route 31

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4/5	Mogadiscio to Dolo (Route 4)	Dolo	NB 38/4 JBJ 520613	NA	NA	NK	*Ferry* Steel pontoons Capacity: Two Land-rovers or 1 × 3-ton truck	6 tons	Over River Daua Parma. At frontier with Ethiopia en route to Filtu and used by traffic on Route 31. In good condition April 1959
41/1	Merca to Bur Acaba (Route 41)	Audegele	NA 38/5 JAU 5919	195	(i) NK (ii) 13	140	Probable five-span steel girder on tubular steel piles. Steel track for vehicles on timber decking. Iron handrails	8 tons	Over River Uebi Scebeli
41/2	Merca to Bur Acaba (Route 41)	Bur Acaba	NA 38/2 JBE 800045	*c.* 150	(i) NK (ii) 16	NK	Single-span iron and concrete on concrete abutments and approaches	NK	Over tug
44/1	Dinsor to Brava (Route 44)	Avai	NA 38/4 JAL 3628	*c.* 150	(i) 13 (ii) 13	120	Five-span steel girder on steel pile clusters with decking of wooden sleepers (poor condition). Steel track two ft wide for vehicles	18 tons	Over River Uebi Scebeli; probably rebuilt 1961–62. In December 1962, capacity given as five tons, though heavier vehicles use bridge
51/1	Tigieglo to Belet Uen (Route 51)	Belet Uen	NB 38/5 KBN 4525	175	(i) 22½ (ii) 18	125	Single-span Warren steel (N) truss	Design 80 tons. Reported 1948 limited to 24 tons	Over River Uebi Scebeli; banks 19 ft high Overhead bracing, clearance limitation 16 ft
6/1	Mogadiscio to Ferfer (Route 6)	Balad	NA 38/2 KAN 6662	168	(i) 18 (ii) 12	120	Two-span, deck type, steel lattice girder on masonry piers and abutments with timber decking	Design 40 tons. Reported 1948 limited to 24 tons	Wickham bridge over River Uebi Scebeli; banks 20 ft high and nearly vertical. Water gap fairly deep
6/2	Mogadiscio to Ferfer (Route 6)	Bulo Burti	NA 38/2 KBG 8626	175	(i) 22½ (ii) 19	118	Single-span Warren steel (N) truss on masonry abutments	Design 80 tons. Reported 1948 limited to 24 tons	Over River Uebi Scebeli; banks 20 and 30 ft high. Water gap fairly deep. Overhead bracing clearance limitation 16 ft

Serial No. (a)	Route (b)	Nearest town or landmark (c)	Location (d)	Length between abutments ft (e)	Width in ft (i) Overall (ii) Road (f)	Water gap ft (g)	Constructional details (h)	Load class (j)	Remarks (k)
6/3	Mogadiscio to Ferfer (Route 6)	Bulo Burti (22 miles north of)	NB 38/5 KBG 8665	206	(i) 26 (ii) 23	NK	Five-span RSJ on masonry piers and abutments with timber decking Spans: 5 × 27 ft	Class 70 (military)	Over dry tug Chili Guret
6/4	Mogadiscio to Ferfer (Route 6)	Bulo Burti (25½ miles north of)	KB 38/5 KBG 8269	276 (approx.)	(i) 26 (ii) 23	NK	Seven-span RSJ on masonry piers and abutments with timber Spans: 7 × 27 ft	Class 70 (military)	Over dry tug bed
6/5	Mogadiscio to Ferfer (Route 6)	Bulo Burti (46½ north of)	NB 38/5 KBG 7082 (approx.)	268	(i) 26 (ii) 23	NK	Ten-span RSJ embedded in concrete on masonry piers and abutments, with RC slab decking Spans: 10 × 27 ft	Class 70 (military)	Over dry tug Chili Ara Gidut
6/6	Mogadiscio to Ferfer (Route 6)	Belet Uen	NB 38/5 KBN 5318 (approx.)	214	(i) 26 (ii) 23	NK	Eight-span RSJ on masonry piers and abutments with timber decking Spans: 8 × 24 ft	Class 70 (military)	Over dry tug
6/7	Mogadiscio to Ferfer (Route 6)	Hiran	NB 38/5 KBN 5031 (approx.)	186	(i) 26 (ii) 23	NK	Seven-span RC "T" beam on masonry piers and abutments with RC slab decking Spans: 7 × 24 ft	Class 70 (military)	Over dry tug. Shelving banks. Diversion possible alongside
6/8	Mogadiscio to Ferfer (Route 6)	Belet Uen (7½ miles north of)	NB 38/5 KBN 4937	186	(i) 26 (ii) 23	NK	Seven-span RC "T" beam on masonry piers and abutments with RC slab decking Spans: 7 × 24 ft	Class 70 (military)	Over dry tug Hiran

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6/9	Mogadiscio to Ferfer (Route 6)	Belet Uen (10 miles north of)	NB 38/5 KBN 4841	186	(i) 26 (ii) 23	NK	Seven-span RC "T" beam on masonry piers and abutments with RC slab decking Spans: 7 × 24 ft	Class 70 (military)	Over dry tug. Diversion possible
6/10	Mogadiscio to Ferfer (Route 6)	Belet Uen (12 miles north of)	NB 38/5 KBN 4744 (approx.)	186	(i) 26 (ii) 23	NK	Seven-span RC "T" beam on masonry piers and abutments with RC slab decking Spans: 7 × 24 ft	Class 70 (military)	Over dry tug Far Culoi. Banks 15 ft high, sloping and bush covered
6/11	Mogadiscio to Ferfer (Route 6)	Ferfer	NB 38/5 KBN 3862	323	(i) 26 (ii) 23	NK	Twelve-span RC "T" beam on masonry piers and abutments with RC slab decking Spans: 12 × 24 ft	Class 70 (military)	Over Wadi Ferfer
64/1	Mahaddei Uen to Itala (Route 64)	Mahaddei Uen	NA 38/2 KBA 8227	174	(i) NK (ii) NK	NK	Single-span ferro concrete bowstring	20 tons	Over River Uebi Scebeli
93/1	Ainabo to Mait (Route 93)	Erigavo	NC 38/3 KDR 752900	NA	NA	NA	*Tunnel* Length; 225 ft Width: 18 ft Height; 20 ft	NA	Through Tabah Pass

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ROAD SURFACE AND CONSTRUCTION TYPES

	Type	Description	Definition	Remarks
Waterproof surface	1	Cement concrete	Mass or reinforced concrete slab 7 to 10 ins thick on good granular or compacted earth base	Principal roads in Western Europe and other well developed areas, *e.g.*, autobahns, exits from large cities
		Bituminous concrete	3 to 6-in. bitumen and aggregate mix on good 5 to 12-in. stone base	Common type of main road in Europe and other well developed areas
		Note.—Type 1 also includes stone sett, cobblestone and wood block roads on sound base		
	2	Intermediate bituminous	Mix-in-place and penetration type construction with 1½ to 3-in. surface layer on good 5 to 8-in. stone or waterbound macadam base	Secondary roads in parts of Europe and main roads in less developed areas, *e.g.*, Spain, parts of Middle East, India, etc.
	3	Bituminous surface-treated	Base of gravel and other aggregate or soil cement, surface treated with low-grade bituminous material	Secondary and tertiary roads, low cost construction in less developed areas, *e.g.*, Scandinavia, Turkey, etc.
Rolled stone surface	4	Waterbound macadam, gravel, crushed stone and selected local materials	Stone, gravel, laterite, rolled and shaped or naturally consolidated to road profile and bonded with clay, calcium chloride, water, oil, etc.	Main and secondary roads in the more developed areas of Africa, Middle East and Far East
Natural surface	5	Improved earth	Natural earth, rolled and graded or shaped, with some drainage facilities	Pioneer areas of Asia and Africa, etc., where road network is still in a rudimentary stage of development
	6	Unimproved earth	Natural earth track formed by passage of wheeled traffic	Motorable tracks in pioneer and backward areas

Note.—The term " tarmacadam " or " macadam " is often used loosely to describe road surfaces in Types 1–3 above. Where this expression is used in route reports at Appendix A or elsewhere in this B.I.S. the particular type of surface has been stated, *e.g.*, " Tarmacadam, Type 2 ".

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APPENDIX D TO CHAPTER III

MAPS AND EDITION NUMBERS USED IN COMPILATION

Map Series AMS Y 401 (GSGS 4355). 1 : 500,000

Sheet Number	*Edition*
NA 37/3	3
NA 37/6	4
NA 38/1	4
NA 38/2	3
NA 38/3	2
NA 38/4	3
NA 38/5	3
NB 37/6	4
NB 38/3	2
NB 38/4	3
NB 38/5	3
NB 38/6	3
NB 39/1	3
NB 39/4	3
NC 38/1	3
NC 38/2	3
NC 38/3	4
NC 38/4	7
NC 38/5	3
NC 38/6	3
NC 39/1	3
NC 39/2	2
NC 39/4	3
NC 39/5	2
SA 37/3	3
SA 38/1	4

D/6/V

BRITISH INTELLIGENCE SURVEY ON SOMALI REPUBLIC

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SOMALI REPUBLIC
ROADS AND
INLAND WATERWAYS

REFERENCE

International boundaries

Waterproof surface road, at least 18 ft wide (Types 1, 2 & 3)

Waterproof surface road, less than 18 ft wide (Types 1, 2 & 3)

Rolled stone surface road, at least 18 ft wide (Type 4)

Rolled stone surface road, less than 18 ft wide (Type 4)

Natural surface road, at least 18 ft wide (Types 5 & 6)

Natural surface road, less than 18 ft wide (Types 5 & 6)

Road planned or projected

J.I.B. Route number (as in text) — 5

Road capacity (in vehicles each way per day (v.e.w.p.d.) and section over which applicable. (Warning: see Preface before using this figure) — 55

Bridges — 1/1

Tunnels — T 93/1

Ferries — F 2/1

Navigable Waterways

Miles 20 10 0 20 40 60 80 100 120 140 Miles

Kilometres 40 0 40 80 120 160 200 Kilometres

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12°
46°
46°
48°
50
11°
10°
9°
8°

Jibuti
Louada
Zeila
Gabod
Luk Haiyah
Bulhar
Garisa
Abdel Cader (Abdul Ghadir)
Dobo Pass
Bawn
Borama
Tug Wajale Post
Kalabid
Hargeisa
Dabdera Karim Pass
Bederwanak
To Giggiga and Harar
Adadle
Darburruk
Odweina
Ghor Odweina
Burao
Ber
Sheikh Pass
Upper Sheikh
BERBERA
Karin
Las Dureh
Elal
Eik
Burao Kibir
Duruksi
To Scillave
To Awareh and Scillave
Awareh
Raguda
Mait
Heis
Tabah Pass
Erigavo
El Afwein
Las Khoreh
Durdureh
Bender Ziada
Bender Cassim (Bosaso)
Candala
Botiale
Carin
Tisgieh
Karindasho Pass
Jidali
El Ad
Haberru
El Donfar
Laz Daua
Meledi
El Haga
Buran
Danan
Sarrar Plain
Kullarle Hills
Ban Plain
Ade Plain
Qaradag
Adad
Waridad
Dero Eri
Kirit
Ainabo
El Dab
Senergot
Hudin
Hagrain
Las Anod
Baran
Wudwud
Bohotleh Wein
To Curmis and Galadi
Darkein Genyo
Beratable
Taleh
Halin
Las Worwar
Gardo
Sinugif
Callis Lugdero Hills
Bihen
Garoe
Eil

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SOMALI REPUBLIC ROADS AND INLAND WATERWAYS

REFERENCE

International boundaries

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NOTE

"This map/plan should be used only in conjunction with the text that it illustrates, including any changes or additions contained in a Check Bulletin, or other amendment(s)."

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